

\$%^STN;HighlightOn= \*\*\*;HighlightOff=\*\*\*

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NEWS 19 DEC 23 New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/USPAT2  
  
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AND CURRENT DISCOVER FILE IS DATED 02 DECEMBER 2005.  
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DICTIONARY FILE UPDATES: 29 DEC 2005 HIGHEST RN 870807-79-7

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=>  
Uploading c:\program files\stnexp\queries\09890711pyridyl.str  
L1 STRUCTURE UPLOADED  
  
=>  
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L2 STRUCTURE UPLOADED  
  
=>  
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L3 STRUCTURE UPLOADED  
  
=> s 11 sss full  
FULL SEARCH INITIATED 07:59:13 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 17968 TO ITERATE  
  
100.0% PROCESSED 17968 ITERATIONS 44 ANSWERS  
SEARCH TIME: 00.00.01

L4 44 SEA SSS FUL L1  
  
=> s 13 sss full  
FULL SEARCH INITIATED 07:59:28 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 6973 TO ITERATE

100.0% PROCESSED 6973 ITERATIONS 97 ANSWERS  
SEARCH TIME: 00.00.01

L5 97 SEA SSS FUL L3  
  
=> file caplus  
COST IN U.S. DOLLARS SINCE FILE TOTAL

FULL ESTIMATED COST

ENTRY 333.88 SESSION 334.09

FILE 'CAPLUS' ENTERED AT 07:59:34 ON 30 DEC 2005  
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=> s 14 or 15  
11 L4  
46 L5  
L6 56 L4 OR L5

=> d all 1-56

L6 ANSWER 1 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:1132564 CAPLUS  
DN 143:396394  
ED Entered STN: 21 Oct 2005  
TI Electrochromic element, optical density changing element, optical element and photographing unit  
IN Shinohara, Ryuji; Kaneiwa, Hideki; Matsunaga, Atsushi; Morimoto, Kiyoshi  
PA Fuji Photo Film Co., Ltd., Japan  
SO U.S. Pat. Appl. Publ., 35 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM G02F001-15  
INCL 359265000  
CC 74-9 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005231784	A1	20051020	US 2005-73862	20050308
	JP 2005292758	A2	20051020	JP 2004-148744	20040519
	JP 2005292819	A2	20051020	JP 2005-65786	20050309
PRAI	JP 2004-65344	A	20040309		
	JP 2004-147261	A	20040518		
	JP 2004-148744	A	20040519		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 2005231784	ICM	G02F001-15
		INCL	359265000
		IPCI	G02F0001-15 [ICM,7]
		NCL	359/265.000
JP	2005292758	IPCI	G02F0001-15 [ICM,7]; C09K0009-02 [ICS,7]; G02C0007-10 [ICS,7]; G03C0003-00 [ICS,7]; C09B0017-00 [ICS,7]
		FTERM	2H006/BE01; 2H006/BE05; 2K001/AA06; 2K001/AA11; 2K001/BB20; 2K001/BB28; 2K001/CA24; 2K001/EA11
JP	2005292819	IPCI	G02F0001-153 [ICM,7]; G02F0001-15 [ICS,7]; G03B0011-00 [ICS,7]

FTERM 2H083/AA01; 2H083/AA03; 2H083/AA05; 2H083/AA11;  
2H083/AA12; 2H083/AA14; 2H083/AA17; 2H083/AA32;  
2H083/AA53; 2K001/AA06; 2K001/BB06; 2K001/BB20;  
2K001/CA08; 2K001/CA19; 2K001/CA20; 2K001/CA23;  
2K001/CA31; 2K001/DA04; 2K001/DA20; 2K001/EA08

AB An electrochromic element is described which has, in a colored state, a 1st av. absorbance in a 1st wavelength range of 450 to 470 nm, a 2nd av. absorbance in a 2nd wavelength range of 540 to 560 nm and a 3rd av. absorbance in a 3rd wavelength range of 630 to 650 nm have a fluctuation (difference of a max. value and a min. value of the 1st to 3rd av. optical densities) equal to or <0.5.

ST electrochromic element optical absorbance fluctuation

IT Electrochromic imaging devices

Phototransistors

Solar cells

(electrochromic element, optical d. changing element, optical element and photographing unit)

IT Optical filters

(electrochromic; electrochromic element, optical d. changing element, optical element and photographing unit)

IT Cameras

(electronic; electrochromic element, optical d. changing element, optical element and photographing unit)

IT Telephones

(mobile phone; electrochromic element, optical d. changing element, optical element and photographing unit)

IT 866892-72-0 \*\*\*866892-74-2\*\*\* 866892-75-3 866892-76-4

866892-77-5 \*\*\*866892-78-6\*\*\* \*\*\*866892-79-7\*\*\* 866892-80-0

RL: NUU (Other use, unclassified); USES (Uses)

(electrochromic element, optical d. changing element, optical element and photographing unit)

L6 ANSWER 2 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:1062992 CAPLUS

DN 143:486196

ED Entered STN: 05 Oct 2005

TI Generation of crystal structures of heteromolecular compounds by the method of discrete modeling of packings

AU Maleev, A. V.; Zhitkov, I. K.; Rau, V. G.

CS Vladimir State Pedagogical University, Vladimir, 600024, Russia

SO Crystallography Reports (2005), 50(5), 727-734

CODEN: CYSTE3; ISSN: 1063-7745

PB Pleiades Publishing, Inc.

DT Journal

LA English

CC 75-10 (Crystallography and Liquid Crystals)

AB Within the method of discrete modeling of packings, an algorithm of generation of possible crystal structures of heteromol. compds. contg. 2 or 3 mols. in the primitive unit cell, one of which has an arbitrary shape and the other (2 others) has a shape close to spherical, is proposed. From this algorithm, a software package for personal computers is developed. This package was approved for a no. of compds., studied previously by x-ray diffraction anal. The results of generation of structures of 5 compds., 4 org. salts (with 1 or 2 spherical anions) and 1 solvate, are represented.

ST crystal structure generation heteromol compd discrete modeling packing

IT Algorithm

(for generation of crystal structures of heteromol. compds. by method of discrete modeling of packings)

IT Crystal structure determination methods

(generation of crystal structures of heteromol. compds. by method of discrete modeling of packings)

IT 66104-23-2 \*\*\*73048-55-2\*\*\* 119942-75-5 374924-26-2 374928-05-9

RL: PRP (Properties)

(generation of crystal structure by method of discrete modeling of packings)

RE.CNT 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; CSD version 5.25 2003

(2) Burkert, U; Molecular Mechanics 1982

(3) Burkert, U; Molecular Mechanics 1986

(4) Chandra, T; Inorg Chem 2001, V40, P5878 CAPLUS

(5) Clark, R; J Med Chem 1991, V34, P705 CAPLUS  
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 (7) Kuleshova, L; Crystallogr Rep 2001, V46, P13  
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 (9) Ma, L; Can J Chem 1987, V65, P256 CAPLUS  
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 (18) Razumaeva, A; Vestn Mosk Univ 1980, V21(1), P27 CAPLUS  
 (19) Vansant, J; J Org Chem 1980, V45, P1557 CAPLUS  
 (20) Vorontsov, I; Crystallogr Rep 2000, V45, P234  
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 (23) Vorontsov, I; Kristallografiya 2001, V46(5), P833 CAPLUS  
 (24) Zheng, Y; Acta Crystallogr E 2001, V57, P1029  
 (25) Zlokazov, V; J Appl Crystallogr 1992, V25, P447

L6 ANSWER 3 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:220000 CAPLUS

DN 142:294281

ED Entered STN: 13 Mar 2005

TI Combinatorial fluorescent library based on the styryl scaffold

IN Chang, Young-Tae; Rosania, Gustavo

PA New York University, USA

SO U.S. Pat. Appl. Publ., 21 pp., Cont. of U.S. Ser. No. 656,875.

CODEN: USXXCO

DT Patent

LA English

IC ICM G01N033-53

ICS C07D041-02

INCL 435007100; 546268100; 546256000

CC 9-4 (Biochemical Methods)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2005054006	A1	20050310	US 2004-880614	20040701
PRAI US 2003-656875	A1	20030908		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005054006	ICM G01N033-53 ICS C07D041-02 INCL 435007100; 546268100; 546256000 IPCI G01N0033-53 [ICM,7]; C07D0041-02 [ICS,7] NCL 435/007.100	

OS MARPAT 142:294281

GI

/ Structure 1 in file .gra /

AB A combinatorial library of fluorescent compds. I (R, R1 = substituted or unsubstituted alkyl, alkenyl, alkynyl, aryl, alkaryl, heterocyclyl, fused aryl) useful as organelle-specific probes are produced by reacting an aldehyde with a 2- or 4-methylpyridinium salt. Pyridinium salts II (R2 = Me, 1-adamantyl) were resynthesized and tested to study the structural importance of the adamantyl group and the positional effects of the methoxy groups. II (R2 = 1-adamantyl) showed selective nucleus staining of UACC-62 human melanoma cells.

ST combinatorial library styrylpyridinium dye organelle binding

IT Staining, biological

Stains, biological

(fluorescent; prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT Organelle

(granule; prepn. and organelle binding of styrylpyridinium scaffold

combinatorial fluorescent library)  
 IT Cell nucleolus  
 Cell n  cleus  
 Combinatorial library  
 Endoplasmic reticulum  
 Human  
 Mitochondria  
 Organelle  
 (prepn. and organelle binding of styrylpyridinium scaffold  
 combinatorial fluorescent library)  
 IT DNA  
 RNA  
 RL: ANT (Analyte); ANST (Analytical study)  
 (prepn. and organelle binding of styrylpyridinium scaffold  
 combinatorial fluorescent library)  
 IT Aldehydes, reactions  
 RL: CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial  
 study); RACT (Reactant or reagent)  
 (prepn. and organelle binding of styrylpyridinium scaffold  
 combinatorial fluorescent library)  
 IT Organelle  
 (vesicle; prep. and organelle binding of styrylpyridinium scaffold  
 combinatorial fluorescent library)  
 IT 959-81-9P 2156-29-8P 3915-61-5P 5418-77-9P 5418-78-0P 6286-05-1P  
 19224-33-0P 20288-72-6P 20327-08-6P 20404-87-9P 20977-72-4P  
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 RL: ARG (Analytical reagent use); CPN (Combinatorial preparation); PRP  
 (Properties); ANST (Analytical study); CMBI (Combinatorial study); PREP

(Preparation); USES (Uses)

(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT 847822-06-4P 847822-07-5P 847822-08-6P 847822-09-7P 847822-10-0P  
847822-11-1P 847822-12-2P 847822-13-3P \*\*\*847822-14-4P\*\*\*  
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847822-35-9P 847822-36-0P 847822-37-1P 847822-38-2P

RL: ARG (Analytical reagent use); CPN (Combinatorial preparation); PRP  
(Properties); ANST (Analytical study); CMBI (Combinatorial study); PREP  
(Preparation); USES (Uses)

(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT 669762-45-2P 669762-48-5P 847820-41-1P 847820-42-2P 847820-43-3P  
847820-44-4P 847820-45-5P 847820-46-6P 847820-47-7P 847820-48-8P  
RL: ARG (Analytical reagent use); CPN (Combinatorial preparation); PRP  
(Properties); SPN (Synthetic preparation); ANST (Analytical study); CMBI  
(Combinatorial study); PREP (Preparation); USES (Uses)

(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT 66-77-3, 1-Naphthalenecarboxaldehyde 66-99-9, 2-  
Naphthalenecarboxaldehyde 86-81-7, 3,4,5-Trimethoxybenzaldehyde  
99-61-6, 3-Nitrobenzaldehyde 100-10-7, 4-Dimethylaminobenzaldehyde  
100-52-7, Benzaldehyde, reactions 104-55-2, Cinnamaldehyde 104-87-0,  
4-Methylbenzaldehyde 104-88-1, 4-Chlorobenzaldehyde, reactions  
120-14-9, 3,4-Dimethoxybenzaldehyde 120-57-0, 3,4-  
Methylenedioxybenzaldehyde 122-78-1, Phenylacetaldehyde 122-85-0,  
4-(Acetylamino)benzaldehyde 123-08-0, 4-Hydroxybenzaldehyde 123-11-5,  
4-Methoxybenzaldehyde, reactions 135-02-4, 2-Methoxybenzaldehyde  
446-52-6, 2-Fluorobenzaldehyde 459-57-4, 4-Fluorobenzaldehyde  
487-89-8, 3-Indolecarboxaldehyde 529-20-4, 2-Methylbenzaldehyde  
552-89-6, 2-Nitrobenzaldehyde 555-16-8, 4-Nitrobenzaldehyde, reactions  
621-59-0, 3-Hydroxy-4-methoxybenzaldehyde 623-27-8, 1,4-  
Benzenedicarboxaldehyde 642-31-9, 9-Anthracenecarboxaldehyde 643-79-8,  
o-Phthalaldehyde 653-37-2, Pentafluorobenzaldehyde 872-73-1,  
1,2-Dimethylpyridinium iodide 876-87-9 1121-60-4, 2-  
Pyridinecarboxaldehyde 1122-91-4, 4-Bromobenzaldehyde 1734-79-8,  
4-Nitrocinnamaldehyde 1943-30-2 1971-81-9, 4-Dimethylamino-1-  
naphthalenecarboxaldehyde 2301-80-6, 1,4-Dimethylpyridinium iodide  
2525-19-1, 1,2,6-Trimethylpyridinium iodide 3132-99-8,  
3-Bromobenzaldehyde 3218-36-8, 4-Phenylbenzaldehyde 4460-86-0,  
2,4,5-Trimethoxybenzaldehyde 5392-12-1, 2-Methoxy-1-  
naphthalenecarboxaldehyde 5447-02-9, 3,4-Dibenzylxyloxybenzaldehyde  
6203-18-5, 4-Dimethylaminocinnamaldehyde 6630-33-7, 2-Bromobenzaldehyde  
14002-58-5, 1,2,4,6-Tetramethylpyridinium iodide 15827-70-0,  
1,2,4-Trimethylpyridinium iodide 15971-29-6, 4-Methoxy-1-  
naphthalenecarboxaldehyde 16859-86-2 20497-90-9 26933-87-9,  
2-Pyrenecarboxaldehyde 28710-35-2 30084-90-3, 2-Fluorenecarboxaldehyde  
31483-51-9, 1,2,3-Trimethylpyridinium iodide 59105-85-0 847820-09-1  
847820-10-4

RL: CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial  
study); RACT (Reactant or reagent)

(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT 669762-46-3P 669762-47-4P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

IT 2103-57-3, 2,3,4-Trimethoxybenzaldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(prepn. and organelle binding of styrylpyridinium scaffold  
combinatorial fluorescent library)

L6 ANSWER 4 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:1118620 CAPLUS

DN 142:221167

ED Entered STN: 22 Dec 2004

TI Fluorescent probes: solid-phase synthesis of styryl dyes and their  
application as amyloid sensors

AU Li, Qian; Lee, Jun-Seok; Ha, Chanki; Park, Chan Beum; Yang, Guang; Gan,

Wen Biao; Chang, Young-Tae

CS Department of Chemistry, New York University, New York, NY, 10003, USA

SO Angewandte Chemie, International Edition (2004), 43(46), 6331-6335

CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 9

AB The combinatorial approach: a library of fluorescent styryl dyes (320 compds.) was prep'd. by solid-phase chem. The dyes were screened for their detection of amyloid aggregates, which are assoc'd. with diseases such as Alzheimer's, and two of the 320 compds. screened showed promise as brain-imaging agents.

ST combinatorial prepn styryl dye fluorescent indicator amyloid detector; fluorescent amyloid indicator styryl dye solid phase prepn

IT Fluorescent indicators

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT Solid phase synthesis

(combinatorial; of styryl dyes for use as amyloid sensors)

IT Fluorescent dyes

(cyanine; combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT Cyanine dyes

(fluorescent; combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT Combinatorial library

(from solid-phase prepn. of styryl dyes for application as amyloid sensors)

IT Fluorescence

(of styryl dyes for use as amyloid sensors)

IT Combinatorial chemistry

(solid-phase; of styryl dyes for use as amyloid sensors)

IT Amyloid

RL: DGN (Diagnostic use); BIOL (Biological study); USES (Uses)

(.beta.-; combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 840544-31-2P 840544-39-0P 840544-93-6P 840545-05-3P 840545-07-5P

840545-21-3P 840545-29-1P 840546-39-6P 840549-08-8P 840549-20-4P

840549-34-0P 840549-66-8P 840549-80-6P

RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation);

DGN (Diagnostic use); PRP (Properties); BIOL (Biological study); CMBI

(Combinatorial study); PREP (Preparation); USES (Uses)

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 840544-25-4P 840544-27-6P 840544-29-8P 840544-33-4P 840544-35-6P

840544-37-8P 840544-41-4P 840544-43-6P 840544-45-8P 840544-47-0P

840544-49-2P \*\*\*840544-51-6P\*\*\* 840544-53-8P 840544-55-0P

840544-57-2P 840544-59-4P 840544-61-8P 840544-63-0P 840544-65-2P

840544-67-4P 840544-69-6P 840544-71-0P 840544-73-2P 840544-75-4P

840544-77-6P 840544-79-8P 840544-81-2P 840544-83-4P 840544-85-6P

840544-87-8P 840544-89-0P 840544-91-4P 840544-95-8P 840544-97-0P

840544-99-2P 840545-01-9P 840545-03-1P 840545-09-7P 840545-11-1P

840545-13-3P 840545-15-5P 840545-17-7P 840545-19-9P 840545-23-5P

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840545-47-3P 840545-49-5P 840545-51-9P 840545-53-1P 840545-55-3P

840545-57-5P 840545-59-7P 840545-61-1P 840545-63-3P 840545-65-5P

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840546-07-8P 840546-09-0P 840546-11-4P 840546-13-6P 840546-15-8P

840546-17-0P 840546-19-2P 840546-21-6P 840546-23-8P 840546-25-0P

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840546-49-8P 840546-51-2P 840546-53-4P 840546-55-6P 840546-57-8P

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840546-69-2P 840546-71-6P 840546-73-8P 840546-75-0P 840546-77-2P

840546-79-4P 840546-81-8P 840546-83-0P 840546-85-2P 840546-87-4P

840546-89-6P	840546-91-0P	840546-93-2P	840546-95-4P	840546-97-6P
840546-99-8P	840547-01-5P	840547-03-7P	840547-05-9P	840547-07-1P
840547-09-3P	840547-11-7P	840547-13-9P	840547-15-1P	840547-17-3P
840547-19-5P	840547-21-9P	840547-23-1P	840547-25-3P	840547-27-5P
840547-29-7P	840547-31-1P	840547-33-3P	840547-35-5P	840547-37-7P
840547-39-9P	840547-41-3P	840547-43-5P	840547-45-7P	840547-47-9P
840547-49-1P	840547-51-5P	840547-53-7P	840547-55-9P	840547-57-1P
840547-59-3P	840547-61-7P	840547-63-9P	840547-65-1P	840547-67-3P
840547-69-5P	840547-71-9P	840547-73-1P	840547-75-3P	840547-77-5P
840547-79-7P	840547-81-1P	840547-83-3P	840547-85-5P	840547-87-7P
840547-89-9P	840547-91-3P	840547-93-5P	840547-95-7P	840547-97-9P
840547-99-1P	840548-01-8P	840548-03-0P	840548-05-2P	840548-07-4P
840548-09-6P	840548-11-0P	840548-13-2P	840548-15-4P	840548-17-6P
840548-19-8P	840548-21-2P	840548-23-4P	840548-25-6P	840548-27-8P
840548-29-0P	840548-31-4P	840548-33-6P	840548-35-8P	840548-37-0P
840548-39-2P	840548-41-6P	840548-43-8P	840548-45-0P	840548-47-2P
840548-49-4P	840548-51-8P	840548-53-0P	840548-55-2P	840548-57-4P
840548-59-6P	840548-61-0P	840548-63-2P	840548-65-4P	840548-67-6P
840548-69-8P	840548-71-2P	840548-73-4P	840548-75-6P	840548-77-8P
840548-79-0P	840548-81-4P	840548-83-6P	840548-85-8P	840548-87-0P
840548-89-2P	840548-91-6P	840548-93-8P	840548-95-0P	840548-96-1P
840548-98-3P	840549-00-0P	840549-02-2P		

RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation); USES (Uses)

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 840549-04-4P 840549-06-6P 840549-10-2P 840549-12-4P 840549-14-6P  
 840549-16-8P 840549-18-0P 840549-22-6P 840549-24-8P 840549-26-0P  
 840549-28-2P 840549-30-6P 840549-32-8P 840549-36-2P 840549-38-4P  
 840549-40-8P 840549-42-0P 840549-44-2P 840549-46-4P 840549-48-6P  
 840549-50-0P 840549-52-2P 840549-54-4P 840549-56-6P 840549-58-8P  
 840549-60-2P 840549-62-4P 840549-64-6P 840549-68-0P 840549-70-4P  
 840549-72-6P 840549-74-8P 840549-76-0P 840549-78-2P 840549-82-8P  
 840549-84-0P 840549-86-2P 840549-88-4P 840549-90-8P 840549-92-0P  
 840549-94-2P 840549-96-4P 840549-98-6P 840550-00-7P 840550-02-9P  
 840550-04-1P 840550-06-3P 840550-08-5P 840550-10-9P 840550-12-1P  
 840550-14-3P 840550-16-5P 840550-18-7P 840550-20-1P 840550-22-3P  
 840550-24-5P 840550-26-7P 840550-28-9P 840550-30-3P 840550-32-5P  
 840550-34-7P 840550-36-9P 840550-38-1P 840550-40-5P 840550-42-7P  
 840550-44-9P 840550-46-1P 840550-48-3P 840550-50-7P 840550-52-9P  
 841234-91-1P 841234-93-3P 841234-95-5P 841234-97-7P 841235-23-2P

RL: BSU (Biological study, unclassified); CPN (Combinatorial preparation); PRP (Properties); TEM (Technical or engineered material use); BIOL (Biological study); CMBI (Combinatorial study); PREP (Preparation); USES (Uses)

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 124-63-0, Methanesulfonyl chloride 7719-09-7, Thionyl chloride  
 RL: CRG (Combinatorial reagent); RGT (Reagent); CMBI (Combinatorial study); RACT (Reactant or reagent)

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 141-43-5, Ethanolamine, reactions 4048-33-3, 6-Amino-1-hexanol  
 RL: CRT (Combinatorial reactant); RCT (Reactant); CMBI (Combinatorial study); RACT (Reactant or reagent)

(combinatorial solid-phase prepn. of styryl dyes and their application as amyloid sensors)

IT 66-77-3, 1-Naphthalenecarboxaldehyde 66-99-9, 2-Naphthalenecarboxaldehyde 86-81-7, 3,4,5-Trimethoxybenzaldehyde  
 91-63-4, 2-Methylquinoline 94-21-3, 4-[N-(2-Cyanoethyl)-N-methyl]aminobenzaldehyde 97-51-8, 2-Hydroxy-5-nitrobenzaldehyde  
 99-61-6, 3-Nitrobenzaldehyde 100-10-7, 4-(Dimethylamino)benzaldehyde  
 100-52-7, Benzaldehyde, reactions 104-88-1, 4-Chlorobenzaldehyde,  
 reactions 105-07-7, 4-Cyanobenzaldehyde 108-48-5, 2,6-Dimethylpyridine  
 108-89-4, 4-Methylpyridine 109-06-8, 2-Methylpyridine 120-14-9,  
 3,4-Dimethoxybenzaldehyde 122-03-2, 4-Isopropylbenzaldehyde 122-78-1,  
 Phenylacetaldehyde 122-85-0, 4-Acetamidobenzaldehyde 123-08-0,  
 4-Hydroxybenzaldehyde 134-96-3, 3,5-Dimethoxy-4-hydroxybenzaldehyde  
 135-02-4, 2-Methoxybenzaldehyde 148-53-8, 2-Hydroxy-3-methoxybenzaldehyde 446-52-6, 2-Fluorobenzaldehyde 458-36-6

459-57-4, 4-Fluorobenzaldehyde 487-89-8, 3-Indolecarboxaldehyde  
 491-35-0, 4-Methylquinoline 552-89-6, 2-Nitrobenzaldehyde 555-16-8,  
 4-Nitrobenzaldehyde, reactions 619-66-9, 4-Carboxybenzaldehyde  
 620-23-5, 3-Methylbenzaldehyde 642-31-9, 9-Anthracenecarboxaldehyde  
 653-37-2, Pentafluorobenzaldehyde 673-22-3, 2-Hydroxy-4-  
 methoxybenzaldehyde 708-06-5, 2-Hydroxy-1-naphthalenecarboxaldehyde  
 1078-28-0, 2-Methyl-6-methoxyquinoline 1121-60-4, 2-  
 Pyridinecarboxaldehyde 1122-91-4, 4-Bromobenzaldehyde 1134-35-6,  
 4,4'-Dimethyl-2,2'-bipyridine 1201-91-8 1504-74-1 1734-79-8  
 2092-49-1 2103-57-3, 2,3,4-Trimethoxybenzaldehyde 2646-90-4,  
 2,5-Difluorobenzaldehyde 3218-36-8, 4-Biphenylcarboxaldehyde  
 3446-89-7, 4-(Methylthio)benzaldehyde 4181-05-9, 4-  
 (Diphenylamino)benzaldehyde 4363-93-3, 4-Quinolinecarboxaldehyde  
 4460-86-0, 2,4,5-Trimethoxybenzaldehyde 4707-71-5, 9-  
 Phenanthrenecarboxaldehyde 5392-12-1, 2-Methoxy-1-  
 naphthalenecarboxaldehyde 5447-02-9, 3,4-Bis(benzoyloxy)benzaldehyde  
 5811-87-0 6203-18-5 6287-38-3, 3,4-Dichlorobenzaldehyde 6346-05-0,  
 3-(Benzoyloxy)-4-methoxybenzaldehyde 6630-33-7, 2-Bromobenzaldehyde  
 7468-67-9, 2-Cyanobenzaldehyde 10040-98-9 15971-29-6,  
 4-Methoxy-1-naphthalenecarboxaldehyde 19012-03-4 22245-51-8,  
 4-Pyrenecarboxaldehyde 22948-94-3 24964-64-5, 3-Cyanobenzaldehyde  
 30084-90-3, 9H-Fluorene-2-carboxaldehyde 39515-51-0,  
 3-Phenoxybenzaldehyde 41313-77-3 90134-10-4, 4-  
 (Dibutylamino)benzaldehyde 144896-51-5, 4-(Benzoyloxy)-3,5-  
 dimethylbenzaldehyde 840550-53-0, Benzo[b]thiophene-3,7-dicarboxaldehyde  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (combinatorial solid-phase prepn. of styryl dyes and their application  
 as amyloid sensors)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Arora, A; FEBS Lett 2004, V564, P121 CAPLUS
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L6 ANSWER 5 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:706368 CAPLUS

DN 141:379576

ED Entered STN: 30 Aug 2004

TI Electron-ionization-induced mass spectral study of isomeric  
 (E)-N-ethyl-1,2-bispyridylethylene iodides

AU Wybierska, Jadwiga

CS Department of Mass Spectrometry of Organic Compounds, Adam Mickiewicz  
 University, Poznan, 60-780, Pol.

SO Rapid Communications in Mass Spectrometry (2004), 18(17), 2008-2012

CODEN: RCMSEF; ISSN: 0951-4198

PB John Wiley & Sons Ltd.

DT Journal

LA English

CC 22-8 (Physical Organic Chemistry)

Section cross-reference(s): 73

AB This study was undertaken in order to find out whether it is possible to differentiate isomeric (E)-N-ethyl-1,2-bispyridylethylene iodides on the basis of electron-impact ionization mass spectrometry. The corresponding fragmentation pathways are discussed.

ST ethylbispyridylethylene iodide electron impact ionization mass spectra

IT Electron ionization mass spectra

Fragmentation reaction

(electron-ionization induced mass spectral study of isomeric (E)-N-ethyl-1,2-bispyridylethylene iodides)

IT \*\*\*784151-36-6\*\*\* 784151-37-7 784151-38-8 784151-39-9

784151-40-2 784151-41-3

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(electron-ionization induced mass spectral study of isomeric (E)-N-ethyl-1,2-bispyridylethylene iodides)

RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L6 ANSWER 6 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:757389 CAPLUS

DN 139:32685

ED Entered STN: 07 Oct 2002

TI Interaction of cyanine dyes with nucleic acids. Meso-substituted cyanines for fluorescent detection of nucleic acids

AU Lukashov, S. S.; Losytskyy, M. Yu.; Kovun, Yu. P.; Yarmoluk, S. M.

CS Inst. Mol. Biol. i Genet., NAN Ukr., Kiev, 03143, Ukraine

SO Biopolimeri i Klitina (2002), 18(3), 243-252

CODEN: BKILAK

PB Institut Molekulyarnoi Biologii i Genetiki NAN Ukrainsk

DT Journal

LA Ukrainian

CC 9-5 (Biochemical Methods)

Section cross-reference(s): 3, 41

AB A series of cyanines with different substituents was prep., and the luminescent spectral properties of the dyes in the presence of double-stranded DNA, RNA and bovine serum albumin (BSA) were examd. The fluorescence was enhanced up to 270-fold in the presence of nucleic acids, while in the presence of the BSA the increase was lower. The highest increase in fluorescence intensity was obsd. for the dye-nucleic acid complexes of Me substituted dyes.

ST cyanine dye nucleic acid detection fluorescence prepn

IT DNA

RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); PROC (Process); USES (Uses)

(double-stranded; interaction of cyanine dyes with nucleic acids for fluorescent detection of nucleic acids)

IT Cyanine dyes

Fluorescence

Fluorometry

(interaction of cyanine dyes with nucleic acids for fluorescent

detection of nucleic acids)  
 IT Nucleic acids  
 RL: ANT (Analyte); ANST (Analytical study)  
 (interaction of cyanine dyes with nucleic acids for fluorescent  
 detection of nucleic acids)  
 IT RNA  
 RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical  
 process); PRP (Properties); PYP (Physical process); SPN (Synthetic  
 preparation); ANST (Analytical study); PREP (Preparation); PROC (Process);  
 USES (Uses)  
 (interaction of cyanine dyes with nucleic acids for fluorescent  
 detection of nucleic acids)  
 IT 2038-15-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (in cyanine dyes prepn.; interaction of cyanine dyes with nucleic acids  
 for fluorescent detection of nucleic acids)  
 IT 18359-86-9P 28496-20-0P 100834-60-4P 540743-81-5P 540743-82-6P  
 540743-83-7P 540743-84-8P 540743-85-9P 540743-86-0P 540743-87-1P  
 540743-88-2P 540743-89-3P \*\*\*540743-90-6P\*\*\* 540743-91-7P  
 540743-93-9P 540743-94-0P 540743-95-1P 540743-96-2P 540743-98-4P  
 RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical  
 process); PRP (Properties); PYP (Physical process); SPN (Synthetic  
 preparation); ANST (Analytical study); PREP (Preparation); PROC (Process);  
 USES (Uses)  
 (interaction of cyanine dyes with nucleic acids for fluorescent  
 detection of nucleic acids)

L6 ANSWER 7 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2001:417080 CAPLUS  
 DN 135:34362  
 ED Entered STN: 08 Jun 2001  
 TI Styryl dyes for light absorbents or optical recording media  
 IN Kasada, Chiaki; Kawata, Toshio; Yano, Kentaro; Yasui, Shigeo  
 PA Kabushiki Kaisha Hayashibara Seibutsu Kagaku Kenkyujo, Japan  
 SO PCT Int. Appl., 57 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM C09B023-00  
 ICS G11B007-24; B41M005-26  
 CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
 Sensitizers)  
 Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001040382	A1	20010607	WO 2000-JP8298	20001124
	W: JP, KR, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
	EP 1149873	A1	20011031	EP 2000-977919	20001124
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	US 2005240019	A1	20051027	US 2005-102756	20050411
PRAI	JP 1999-343211	A	19991202		
	WO 2000-JP8298	W	20001124		
	US 2001-890711	A3	20010802		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2001040382	ICM	C09B023-00	
	ICS	G11B007-24; B41M005-26	
	IPCI	C09B0023-00 [ICM,7]; G11B0007-24 [ICS,7]; B41M0005-26 [ICS,7]	
EP 1149873	ECLA	C09B023/14H; G11B007/247	
	IPCI	C09B0023-00 [ICM,6]; G11B0007-24 [ICS,6]; B41M0005-26 [ICS,6]	
	ECLA	C09B023/14H; G11B007/247	
US 2005240019	IPCI	C07F0001-02 [ICM,7]; C07D0417-02 [ICS,7]; C07D0413-02 [ICS,7]; C07D0043-02 [ICS,7]	
	NCL	546/002.000	
OS	CASREACT	135:34362; MARPAT	135:34362

/ Structure 2 in file .gra /

AB Title laser-sensitive dyes, having a high absorption at  $\lambda \text{toreq.} 400$  nm, have a structure as  $[\text{Q1C(R)} : \text{CHQ2}]X-n$  (R = H, aliph. hydrocarbyl, ether, acyl, halogen, cyano; Q1 = N-contg., O- and N-contg., or S- and N-contg. heterocyclic group; Q2 = arom. or heterocyclic group; X = counter anion; n = no. of X- for elec. charge balance). Reacting 2,3,4-trimethylthiazolium iodide and 4-cyanobenzaldehyde in the presence of HOAc and Et<sub>3</sub>N at 80.degree. for 1 h, washing with EtOH, and recrystg. gave I with m.p. of 261-263.degree..

ST styryl dye light absorber; optical recording medium styryl dye; methylene quaternary ammonium salt reaction aldehyde styryl dye

IT Quaternary ammonium compounds, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (active Me or methylene group-contg.; manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT Absorbents  
 (light; manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT Condensation reaction  
 Cyanine dyes  
 Optical recording materials  
 (manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT Aldehydes, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT 6285-95-6P \*\*\*13206-45-6P\*\*\* \*\*\*26485-06-3P\*\*\* 343340-38-5P  
 343340-40-9P  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT 112377-16-9 343340-41-0 343340-42-1 343340-44-3  
 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)  
 (manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

IT 74-88-4, Methyl iodide, reactions 99-61-6, 3-Nitrobenzaldehyde  
 105-07-7, 4-Cyanobenzaldehyde 555-16-8, 4-Nitrobenzaldehyde, reactions  
 876-87-9, 1,2-Dimethylquinolinium iodide 1121-60-4, 2-Formylpyridine  
 5787-82-6, 2,3,4-Trimethylthiazolium iodide 24402-88-8,  
 1,3-Diethyl-2-methyl-5,6-dichlorobenzimidazolium tosylate 61224-35-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (manuf. of light-absorbing styryl dyes from methylene-contg. quaternary ammonium salts and aldehydes for optical recording media)

RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Canon Inc; JP 61137774 A 1986 CAPLUS  
 (2) Canon Kabushiki Kaisha; JP 427959 B2  
 (3) Canon Kabushiki Kaisha; US 4766047 A CAPLUS  
 (4) Canon Kabushiki Kaisha; GB 2149930 A 1985 CAPLUS  
 (5) Casio Computer Co Ltd; JP 06134291 A 1994 CAPLUS  
 (6) Eastman Kodak Company; US 4577024 A CAPLUS  
 (7) Eastman Kodak Company; JP 5817164 A  
 (8) Eastman Kodak Company; EP 68876 A1 1983  
 (9) Fuji Photo Film Co Ltd; JP 10324065 A 1998 CAPLUS  
 (10) Gakkou Houjin Tokyo Denki University; JP 5615485 A 1981

L6 ANSWER 8 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1999:605646 CAPLUS

DN 131:358047

ED Entered STN: 24 Sep 1999

TI Laser flash photolysis studies of nitrogen ylides generated by the reaction of arylchlorocarbenes with substituted vinylpyridines and 1-azabuta-1,3-dienes

AU Bonneau, R.; Romashin, Y. N.; Liu, M. T. H.  
CS LPCM Universite de Bordeaux 1, Talence, 33405, Fr.  
SO Journal of Photochemistry and Photobiology, A: Chemistry (1999), 126(1-3),  
31-36  
CODEN: JPPCEJ; ISSN: 1010-6030  
PB Elsevier Science S.A.  
DT Journal  
LA English  
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
AB Laser flash photolysis of arylchlorodiazirines in isoctane/CH<sub>2</sub>Cl<sub>2</sub> in the  
presence of substituted vinylpyridines produces substituted  
vinylpyridinium ylide ( $\lambda$  = 540 nm). As the ylide decays a  
concomitant growth causes an absorption at 330 nm, attributed to the  
formation of substituted indolizine. The reaction experiences the  
intramol. 1,5-cyclization of the ylide intermediate. The kinetic  
parameters for the ylide formation and the 1,5-cyclization have been  
obtained. The activation energy for the latter process is reduced by 3-4  
kcal mol<sup>-1</sup> when the vinylpyridine has a Ph ring as a substituent in  
 $\beta$ -position of the ethylenic group. Laser flash photolysis of  
phenylchlorodiazirine in isoctane in the presence of 1-azabuta-1,3-diene  
yields azomethine ylide ( $\lambda$  = 550 nm) as an intermediate. The  
kinetic parameters for the ylide formations and further intramol.  
1,5-cyclization to pyrrole have been detd. The results resemble those  
obtained for the 1,5-cyclization of vinylpyridinium ylide.  
ST arylchlorocarbene vinylpyridine photolysis nitrogen ylide photoproduct  
transient; cyclization ylide transient arylchlorocarbene photolysis  
vinylpyridine azabutadiene  
IT Activation energy  
(cyclization of ylide transients produced in photolysis of  
arylchlorodiazirines in presence of substituted vinylpyridines and  
1-azabuta-1,3-dienes)  
IT Ylides  
RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation,  
nonpreparative); RACT (Reactant or reagent)  
(cyclization of ylide transients produced in photolysis of  
arylchlorodiazirines in presence of substituted vinylpyridines and  
1-azabuta-1,3-dienes)  
IT Flash photolysis  
(cyclization of ylide transients produced in photolysis of  
arylchlorodiazirines in presence of substituted vinylpyridines and  
azabutadienes)  
IT Cyclization kinetics  
(photochem.; cyclization of ylide transients produced in photolysis of  
arylchlorodiazirines in presence of substituted vinylpyridines and  
1-azabuta-1,3-dienes)  
IT Cyclization  
(photocyclization; cyclization of ylide transients produced in  
photolysis of arylchlorodiazirines in presence of substituted  
vinylpyridines and 1-azabuta-1,3-dienes)  
IT Thermal decomposition  
(thermolysis of arylchlorodiazirines in presence of substituted  
vinylpyridines or azabutadienes)  
IT 937-60-0 60293-41-6 63459-08-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(azomethine ylide transients in photolysis of arylchlorodiazirines in  
presence of azabuta-1,3-dienes)  
IT 714-08-9, 2-Phenyl-1-(2-pyridyl)ethylene 718-27-4, 2-(4-Methylphenyl)-1-  
(2-pyridyl)ethylene 1437-15-6, 1,2-Bis(2-pyridyl)ethylene 4460-46-2,  
Phenylchlorodiazirine 5343-70-4, 2-(4-Chlorophenyl)-1-(2-  
pyridyl)ethylene 39184-65-1, 3-Chloro-3-p-tolyliazirine 39184-66-2,  
3-Chloro-3-(p-chlorophenyl)diazirine  
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC  
(Process); RACT (Reactant or reagent)  
(cyclization of substituted vinylpyridinium ylide transients produced  
in photolysis of arylchlorodiazirines in presence of substituted  
vinylpyridines)  
IT 53646-89-2P 114325-24-5P 224434-77-9P 224434-78-0P 224434-79-1P  
224434-81-5P 224434-82-6P  
RL: PEP (Physical, engineering or chemical process); SPN (Synthetic  
preparation); PREP (Preparation); PROC (Process)  
(cyclization of ylide transients produced in photolysis of

arylchlorodiazirines in presence of azabutadienes)  
 IT 21812-61-3P 21965-61-7P 250669-52-4P 250669-53-5P 250669-55-7P  
 250669-56-8P 250669-57-9P 250669-58-0P 250669-59-1P 250669-60-4P  
 250669-61-5P 250669-62-6P  
 RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)  
 (cyclization of ylide transients produced in photolysis of arylchlorodiazirines in presence of substituted vinylpyridines)  
 IT 19807-41-1 86280-26-4 86280-27-5  
 RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (cyclization of ylide transients produced in photolysis of arylchlorodiazirines in presence of substituted vinylpyridines or azabutadienes)  
 IT 33070-08-5  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (photolysis and thermolysis of 1-(2-Pyridyl)-2-(4-pyridyl)ethylene in presence of arylchlorodiazirines)  
 IT 250669-78-4 250669-79-5 250669-80-8 250669-81-9 250669-82-0  
 250669-83-1 250669-84-2  
 RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (ylide transient; cyclization of ylide transients produced in photolysis of arylchlorodiazirines in presence of azabutadienes)  
 IT 250669-64-8 250669-65-9 250669-66-0 250669-67-1 250669-68-2  
 250669-69-3 250669-70-6 250669-71-7 250669-72-8 \*\*\*250669-74-0\*\*\*  
 \*\*\*250669-75-1\*\*\* \*\*\*250669-76-2\*\*\*  
 RL: FMU (Formation, unclassified); RCT (Reactant); FORM (Formation, nonpreparative); RACT (Reactant or reagent)  
 (ylide transient; cyclization of ylide transients produced in photolysis of arylchlorodiazirines in presence of substituted vinylpyridines)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Bonneau, R; J Chem Soc Chem Commun 1994, P509 CAPLUS
- (2) Bonneau, R; J Chem Soc Perkin Trans 1 1989, P1547 CAPLUS
- (3) Bragg, D; J Chem Soc 1962, P2627 CAPLUS
- (4) Danks, T; Tetrahedron Lett 1994, V35, P9443 CAPLUS
- (5) Doyle, M; Chem Rev 1998, V98, P911 CAPLUS
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- (8) Khlebnikov, A; Russian Chem Bull 1993, V42, P653
- (9) Kostikov, R; J Phys Org Chem 1993, V6, P83 CAPLUS
- (10) Kostikov, R; Zh Organicheskoi Khimii 1977, V13, P1857 CAPLUS
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- (12) Maiboroda, D; J Org Chem 1997, V62, P7100 CAPLUS
- (13) Padwa, A; Chem Rev 1991, V91, P263 CAPLUS
- (14) Padwa, A; Chem Rev 1996, V96, P223 CAPLUS
- (15) Ramaiah, D; J Org Chem 1992, V57, P6032 CAPLUS
- (16) Saito, I; Tetrahedron Lett 1976, P2459 CAPLUS
- (17) Seyferth, D; J Am Chem Soc 1973, V95, P8464 CAPLUS
- (18) Seyferth, D; J Org Chem 1974, V39, P2336 CAPLUS
- (19) Shaw, B; J Chem Soc 1933, P77 CAPLUS
- (20) Trost, B; J Org Chem 1980, V45, P2741 CAPLUS
- (21) Vedejs, F; J Am Chem Soc 1988, V110, P3238

L6 ANSWER 9 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:616096 CAPLUS

DN 125:261111

ED Entered STN: 17 Oct 1996

TI Silver halide photographic material and rapid development process

IN Honda, Mari; Oonishi, Akira; Tanaka, Tatsuo; Komamura, Tawara

PA Konishiroku Photo Ind., Japan; Konica Minolta Holdings Inc.

SO Jpn. Kokai Tokkyo Koho, 41 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-83

ICS G03C001-06; G03C005-26

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08179467	A2	19960712	JP 1994-323063	19941226
JP 3467658	B2	20031117		
PRAI JP 1994-323063		19941226		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 08179467	ICM	G03C001-83
	ICS	G03C001-06; G03C005-26
	IPCI	G03C0001-83 [ICM,6]; G03C0001-06 [ICS,6]; G03C0005-26 [ICS,6]

GI

/ Structure 3 in file .gra /

AB The Ag halide photog. material has .gtoreq.1 nonphotosensitive hydrophilic colloidal layer on a support contg. a dispersion of solid dye microparticle whose chem. formula is represented by I (D = N, N+R1; R1 = H, alkyl, alkenyl, O+, S+; Z1 = nonmetallic at. group forming heterocyclyl; Q = aryl, heterocyclyl; X- = anion; k = 0, 1; m = 0, 1; n = 1-3; L1-4 = methine). The process is carried out in the total processing time of .ltoreq.90 s. The photog. material showed little fogging and exhibited image sharpness.

ST silver halide photog material rapid processing

IT Photographic development

Photographic emulsions

(silver halide photog. material and rapid development)

182011-70-7	182011-72-9	182011-75-2	182011-79-6	182011-83-2
182011-86-5	182011-89-8	182011-92-3	182011-94-5	182011-95-6
182011-96-7	182011-98-9	182012-00-6	***182012-01-7***	
182012-02-8	182012-03-9	182012-05-1	182012-07-3	182012-08-4
182012-12-0	182012-14-2	182012-17-5	182012-21-1	182012-25-5
182012-27-7	182012-30-2	182012-33-5	182012-36-8	182012-39-1
182012-42-6	182012-45-9	182012-48-2	182012-52-8	182012-53-9
182012-54-0				

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(dispersion of dye particles in silver halide photog. material)

IT 182011-93-4

RL: DEV (Device component use); MOA (Modifier or additive use); PEP (Physical, engineering or chémical process); PROC (Process); USES (Uses)

(dispersion of dye particles in silver halide photog. material)

L6 ANSWER 10 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:615717 CAPLUS

DN 125:234318

ED Entered STN: 16 Oct 1996

TI Silver halide photographic material and image formation using it

IN Matsumoto, Kazuhiko; Hirano, Akihiro; Okamura, Hisashi

PA Fuji Photo Film Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 32 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C001-43

ICS G03C001-498; G03C008-40

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 08184936	A2	19960716	JP 1994-337531	19941228
PRAI JP 1994-337531		19941228		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 08184936	ICM	G03C001-43
	ICS	G03C001-498; G03C008-40
	IPCI	G03C0001-43 [ICM,6]; G03C0001-498 [ICS,6]; G03C0008-40

GI For diagram(s), see printed CA Issue.

AB The title material, which uses Ag halides and in which the treatment of removing the residual Ag halides is not carried out after image formation, contains a compd. I [R = alkyl, aryl; Z = atoms required to form a 6-membered heterocycle along with the N atom; X- = counter anion; L = (CR1:CR1)n (R1 = H, monovalent substituent; n = 0-10), .gtoreq.2 of R, Z, and R1 may form a ring and link to a polymer] as a print-out inhibitor (which prevents blackening after development). A imaging method is also claimed, in which a photosensitive material having .gtoreq.1 layer contg. Ag halides and binders is developed after or simultaneously with imagewise exposure and the residual Ag halides are reacted with the print-out inhibitor simultaneously with or after development. No blackening occurs when the material is stored in the light room after image formation. Thus, a photog. film was prep'd. by using a AgCl emulsion contg. II.

ST print out inhibitor photog film

IT Photographic films

(silver halide photog. material contg. blackening preventing agent)

IT 85-00-7 1102-19-8 5172-68-9 6159-05-3 6198-51-2 13362-16-8  
15302-99-5 15311-52-1 35020-21-4 36437-30-6 36437-33-9  
56343-82-9 77951-49-6 80164-40-5 116684-14-1 121276-70-8  
121276-73-1 \*\*\*124121-88-6\*\*\* 182012-60-8 182012-61-9  
182012-63-1 182012-65-3

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(silver halide photog. material contg. blackening preventing agent)

L6 ANSWER 11 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:545171 CAPLUS

DN 121:145171

ED Entered STN: 17 Sep 1994

TI Development of super high contrast negative silver halide photographic material

IN Inoe, Nobuaki; Ishiguro, Seiji

PA Fuji Photo Film Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 23 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C005-29

ICS G03C001-035; G03C001-06; G03C001-09; G03C001-22

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05273708	A2	19931022	JP 1992-70964	19920327
	JP 2824879	B2	19981118		
PRAI	JP 1992-70964		19920327		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 05273708	ICM	G03C005-29
	ICS	G03C001-035; G03C001-06; G03C001-09; G03C001-22
	IPCI	G03C0005-29 [ICM,5]; G03C0001-035 [ICS,5]; G03C0001-06 [ICS,5]; G03C0001-09 [ICS,5]; G03C0001-22 [ICS,5]

GI

/ Structure 4 in file .gra /

AB In developing an exposed photog. material having on its support .gtoreq.1 Ag halide emulsion layer with a developer soln., the Ag halide grains contains transition metal (Group V-VIII) complex 10-8 - 10-6 mol/mol(Ag), the emulsion layer or other hydrophilic colloid layer contains .gtoreq.1 compd. selected from I and II (A1-4 = non-metallic atoms required to form N-contg. heterocycle which maybe same or different; B = divalent group; m = 0, 1; R1-4 = alkyl; X = counter ion; n = no. of counter ion for balancing the charge of mol., and n = 0 for an inner salt), and the developer soln. contains L-ascorbic acid as an essential component.

ST photog development ascorbic acid developer; film photog high contrast

IT sensitizer; transition metal complex photog film  
 IT Photographic sensitizers  
     (for super high contrast photog. films)  
 IT Photographic developers  
     (high-contrast, ascorbic acid using)  
 IT 50-81-7, L-Ascorbic acid, uses  
 RL: USES (Uses)  
     (developer, photog. development using)  
 IT 157392-41-1 157392-42-2  
 RL: USES (Uses)  
     (sensitizing dye, super high contrast photog. material contg.,  
     development of)  
 IT 1102-19-8 14854-54-7 15306-82-8 16920-56-2 129536-42-1  
 129557-32-0 \*\*\*156623-81-3\*\*\* 156623-82-4  
 RL: USES (Uses)  
     (super high contrast photog. material contg., development of)

L6 ANSWER 12 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1994:521582 CAPLUS

DN 121:121582

ED Entered STN: 03 Sep 1994

TI Development of super high contrast negative silver halide photographic material

IN Inoe, Nobuaki; Ishiguro, Seiji

PA Fuji Photo Film Co Ltd, Japan

SO Jpn. Kokai Tokkyo Koho, 21 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G03C005-29

ICS G03C001-015; G03C001-035; G03C001-06; G03C001-09; G03C005-305

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05273710	A2	19931022	JP 1992-100220	19920327
	JP 2829455	B2	19981125		
PRAI	JP 1992-100220			19920327	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 05273710	ICM	G03C005-29
	ICS	G03C001-015; G03C001-035; G03C001-06; G03C001-09; G03C005-305
	IPCI	G03C0005-29 [ICM,5]; G03C0001-015 [ICS,5]; G03C0001-035 [ICS,5]; G03C0001-06 [ICS,5]; G03C0001-09 [ICS,5]; G03C0005-305 [ICS,5]

GI

/ Structure 5 in file .gra /

AB In developing an exposed photog. material having on its support .gtoreq.1 Ag halide emulsion layer with a developer soln., the Ag halide grains is based on .gtoreq.90 mol% AgCl and contains Rh or Ru complex  $5 \times 10^{-6}$  mol/mol(Ag), the emulsion layer or other hydrophilic colloid layer contains .gtoreq.1 compd. selected from I and II (A1-4 = non-metallic atoms required to form N-contg. heterocycle which maybe same or different; B = divalent group; m = 0, 1; R1-4 = alkyl; X = counter ion; n = no. of counter ion for balancing the charge of mol., and n = 0 for an inner salt), and the developer soln. contains L-ascorbic acid as essential developer.

ST photog development ascorbic acid developer

IT Photographic developers

   (high-contrast, ascorbic acid in)

IT 50-81-7, L-Ascorbic acid, uses

RL: USES (Uses)

   (developer, photog. development using)

IT 29814-17-3  
 RL: USES (Uses)  
 (silver halide grains formed in the presence of)  
 IT 14854-54-7 129557-32-0 \*\*\*156623-81-3\*\*\* 156623-82-4 156921-14-1  
 RL: USES (Uses)  
 (super high contrast photog. material contg., development of)

L6 ANSWER 13 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1992:502427 CAPLUS  
 DN 117:102427  
 ED Entered STN: 05 Sep 1992  
 TI N-Substituted-1,2-bis(2-pyridyl)ethylene-TCNQ complexes and their manufacture  
 IN Kurihara, Hiroyuki; Shirai, Kozo  
 PA Elna K. K., Japan  
 SO Jpn. Kokai Tokkyo Koho, 5 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C07D213-44  
 ICS C07C255-34  
 ICA H01B001-12; H01G009-02  
 CC 76-3 (Electric Phenomena)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 04059761	A2	19920226	JP 1990-168993	19900627
PRAI JP 1990-168993		19900627		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 04059761	ICM	C07D213-44
	ICS	C07C255-34
	ICA	H01B001-12; H01G009-02
	IPCI	C07D0213-44 [ICM,5]; C07C0255-34 [ICS,5]; H01B0001-12 [ICA,5]; H01G0009-02 [ICA,5]

OS MARPAT 117:102427  
 GI For diagram(s), see printed CA Issue.  
 AB The complexes I (R = C1-18 alkyl, CH2Ph; m = 0.5-1.5), useful as org. semiconductors, are manufd. by treating II (X = halo) with TCNQ. Thus, treating 1,2-bis(2-pyridyl)ethylene with MeI in ethylene glycol di-Me ether at room temp. for 6 h gave 74% II (R = Me, X = I), which was treated with TCNQ in MeCN under reflux to give 58% I (R = Me), m. 197-228.degree. and having resistivity 1.83 .OMEGA.-cm before melting and 67.1 .OMEGA.-cm after melting in DTA.  
 ST quaternary bispyridylethylene TCNQ complex semiconductor  
 IT Semiconductor materials  
 (TCNQ-N-substituted-bis(pyridyl)ethylene complexes, prepn. of)  
 IT 1518-16-7  
 RL: USES (Uses)  
 (complexing of, with N-substituted bispyridylethylene halides)  
 IT \*\*\*26506-24-1P\*\*\* \*\*\*95725-33-0P\*\*\* \*\*\*142093-82-1P\*\*\*  
 \*\*\*142093-83-2P\*\*\*  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prepn. and complexing of, with TCNQ)  
 IT \*\*\*142093-86-5P\*\*\* \*\*\*142093-89-8P\*\*\* \*\*\*142093-92-3P\*\*\*  
 \*\*\*142881-26-3P\*\*\*  
 RL: PREP (Preparation)  
 (prepn. of, as org. semiconductor)  
 IT 1437-15-6, 1,2-Bis(2-pyridyl)ethylene  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (quaternization of, with Me iodide)  
 IT 74-88-4, Methyl iodide, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (quaternization with, of bis(pyridyl)ethylene)

L6 ANSWER 14 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1991:431100 CAPLUS  
 DN 115:31100  
 ED Entered STN: 27 Jul 1991  
 TI Electronic properties of polymethine compounds: 1. Frontier electron levels and electron donor ability

AU Kachkovskii, A. D.; Dyadyusha, G. G.; Dekhtyar, M. L.  
CS Inst. Org. Chem., Kiev, 252660, USSR  
SO Dyes and Pigments (1991), 15(3), 191-202  
CODEN: DYPIDX; ISSN: 0143-7208  
DT Journal  
LA English  
CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)  
AB The relation between frontier MOs (FMOs) and chem. structure of linear polymethylene compds. (PMCs) is investigated. A new parameter, the electron donor ability (.PHI.0) of the PMC, is proposed in order to characterize the frontier level disposition with respect to the Fermi level. Based on FMOs' symmetry and mol. function periodicity, a classification of PMCs is developed, viz. polyenes of class A, polymethines of class A, polyenes of class B and polymethines of class B. A relation between the electron donor ability .PHI.0 and the topol. indexes of the end groups is obsd. for polymethylene dyes and hetaryl polyenes; moving from polymethines to polyenes with the same end groups is accompanied by an essential shifting up or down of frontier levels. Theor. results are illustrated by exptl. data.

ST MO polyene polymethylene dye; frontier MO polymethylene dye; electron donor polymethylene dye

IT Dyes, cyanine  
(frontier MO level of, electron donor ability in relation to)

IT Electron donors  
(polyenes and polymethylene dyes, frontier MO levels of)

IT Molecular orbital  
(frontier, of polyenes and polymethylene dyes, electron donor ability in relation to)

IT 16195-13-4 17944-45-5 20766-56-7 23664-38-2 36954-41-3  
\*\*\*40385-95-3\*\*\* 41491-90-1 42042-25-1 47149-64-4 47202-36-8  
47486-63-5 47545-94-8 47568-25-2 47676-39-1 48183-29-5  
48221-03-0 50579-63-0 52818-99-2 54123-58-9 54134-73-5  
54134-76-8 54134-82-6 54134-84-8 54134-87-1 54261-58-4  
58110-91-1 60387-94-2 61575-70-0 76430-95-0 80328-05-8  
105445-31-6 113160-52-4 113301-68-1 123949-69-9 134260-23-4  
134260-24-5 134260-25-6 134260-26-7 134260-27-8 134260-28-9  
134260-29-0 134260-30-3 134260-31-4 134260-32-5 134280-02-7  
134280-03-8 134280-04-9 134280-05-0 134280-06-1 134558-45-5  
134558-46-6 134558-47-7 134558-48-8 134558-49-9 134558-50-2  
134558-51-3 134558-52-4 134558-53-5 134558-54-6 134558-55-7  
134558-56-8 134558-57-9 134558-58-0 134558-59-1 134558-60-4

RL: PRP (Properties)  
(frontier MO level of, electron donor ability in relation to)

L6 ANSWER 15 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1990:21963 CAPLUS

DN 112:21963

ED Entered STN: 21 Jan 1990

TI Photopolymerizable binder compositions for abrasives

PA Minnesota Mining and Manufacturing Co., USA

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM B24D003-20

ICS B24D003-02; B24D011-00; B24D011-02; C08J005-14; C09K003-14

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01020973	A2	19890124	JP 1988-82114	19880402
	JP 2749053	B2	19980513		
	EP 285369	A2	19881005	EP 1988-302777	19880329
	EP 285369	A3	19901205		
	EP 285369	B1	19931006		
	R: DE, FR, GB				
	CA 1296191	A1	19920225	CA 1988-562881	19880330
	KR 9701151	B1	19970129	KR 1988-3682	19880401
PRAI	US 1987-34066	A	19870402		
	US 1988-156992	A	19880218		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01020973	ICM	B24D003-20
	ICS	B24D003-02; B24D011-00; B24D011-02; C08J005-14; C09K003-14
	IPCI	B24D0003-20 [ICM,4]; B24D0003-02 [ICS,4]; B24D0011-00 [ICS,4]; B24D0011-02 [ICS,4]; C08J0005-14 [ICS,4]; C09K0003-14 [ICS,4]
EP 285369	IPCI	B24D0003-34 [ICM,5]; B24D0003-28 [ICS,5]; C08G0059-68 [ICS,5]; C08J0005-14 [ICS,5]; C08J0003-28 [ICS,5]
CA 1296191	IPCI	B24D0003-28 [ICM,5]; C08J0005-14 [ICS,5]; B05D0003-06 [ICS,5]; B05D0005-08 [ICS,5]
KR 9701151	IPCI	B24D0003-34 [ICM,6]
AB	Title compns. comprise free radical-contg. monomer and photoinitiator compn. comprising aryliodonium salt, photosensitizer having light absorption at 300-1000 nm in the presence of 2-methyl-4,6-bis(trichloromethyl)-s-triazine, and electron donor compd. having oxidn. potential up to that of p-dimethoxybenzene. A binder compn. contg. bisphenol A diglycidyl ether diacrylate 30, tris(hydroxyethyl) isocyanurate triacrylate 30, Photomer 6173 (a urethane acrylate monofunctional accelerator 10, diphenyliodonium hexafluorophosphate 0.5, benzil 0.5, and Et 4-dimethylaminobenzoate 0.5, and tetraethylene glycol diacrylate 30 parts was used to prep. a sand paper with Al oxide and mainly nylon nonwoven fabric by photocuring.	
ST	aryliodonium salt photopolymn sandpaper binder; acrylate sandpaper adhesive photopolymn; photosensitizer photopolymn acrylate sandpaper binder	
IT	Aluminates Glass, oxide RL: USES (Uses)	
	(abrasives, sandpapers contg., adhesives for)	
IT	Epoxy resins, uses and miscellaneous Phenolic resins, uses and miscellaneous Urethane polymers, uses and miscellaneous RL: TEM (Technical or engineered material use); USES (Uses)	
	(adhesives, acrylate copolymer contg., for sandpapers)	
IT	Sandpaper (binders for, acrylate copolymers as, photoinitiator compns. for)	
IT	Adhesives (for sandpapers, acrylate copolymers for, prepn. of, photoinitiator compns. for)	
IT	Carbonates, uses and miscellaneous RL: USES (Uses)	
	(particles, sandpapers contg., adhesives for)	
IT	Electron donors (photoinitiator compns., for acrylate adhesives, for sandpapers)	
IT	Polymerization (photochem., of acrylates, photoinitiator compns. contg. photosensitizers and electron donors for, for sandpapers)	
IT	Crosslinking catalysts (photosensitizers, photoinitiator compns., for acrylate adhesives, for sandpapers)	
IT	409-21-2, Silicon carbide, uses and miscellaneous 1344-28-1, Aluminum oxide, uses and miscellaneous 7440-67-7D, Zirconium, compd. 7782-40-3, Diamond, uses and miscellaneous RL: USES (Uses)	
	(abrasives, sandpapers contg., adhesives for)	
IT	25034-58-6P 92899-80-4P 124303-71-5P 124331-68-6P RL: TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)	
	(adhesives, prepn. of, photoinitiator compns. for, for sandpaper)	
IT	62-53-3, Aniline, uses and miscellaneous 75-05-8, Acetonitrile, uses and miscellaneous 78-93-3, MEK, uses and miscellaneous 98-95-3, Nitrobenzene, uses and miscellaneous 99-97-8, N,N-Dimethyl-p-toluidine 100-10-7 102-71-6, Triethanolamine, uses and miscellaneous 103-49-1, Dibenzylamine 103-83-3, N,N-Dimethyl benzylamine 104-95-0 107-10-8, Propylamine, uses and miscellaneous 109-46-6, 1,3-Dibutylthiourea 109-99-9, THF, uses and miscellaneous 122-79-2, Phenylacetate 127-19-5 135-77-3, 1,2,4-Trimethoxybenzene 150-78-7, p-Dimethoxybenzene 603-34-9, Triphenylamine 603-35-0, uses and miscellaneous 604-88-6, Hexaethylbenzene 619-60-3 632-22-4, Tetramethyl urea 680-31-9, Hexamethylphosphoramide, uses and miscellaneous 764-13-6 2782-91-4,	

Tetramethyl thiourea 4455-13-4 4840-75-9 6161-50-8 10287-53-3  
13368-42-8 21331-86-2, Trisdimethyl silylamine 23162-18-7, Piperidine  
oxide 58967-75-2

RL: USES (Uses)

(electron donors, photoinitiator compns. contg., for acrylate  
adhesives, for sandpapers)

IT 61-73-4, Methylene blue

RL: USES (Uses)

(photosensitizer as, photoinitiator compns. contg., for acrylate  
adhesives, for sandpapers)

IT 81-93-6, Phenosafranine 82-38-2 86-39-5, 2-Chlorothioxanthone  
86-73-7, 9H-Fluorene 206-44-0, Fluoranthene 548-62-9, Crystal violet  
569-64-2 581-64-6, Thionine 1309-37-1, Iron oxide (Fe2O3), uses and  
miscellaneous 1742-91-2 2154-56-5D, Benzyl, compd. 6552-62-1  
6626-84-2 6673-14-9, 1,3-Bis(4-dimethylaminobenzylidene)acetone  
6673-15-0 10373-78-1, Camphorquinone 14323-06-9 21856-78-0  
37251-80-2, Toluidine blue 51395-88-1, Eosin Yellow \*\*\*124454-68-8\*\*\*

RL: USES (Uses)

(photosensitizers, photoinitiator compns. contg., for acrylate  
adhesives, for sandpapers)

L6 ANSWER 16 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1984:69846 CAPLUS

DN 100:69846

ED Entered STN: 12 May 1984

TI Synthesis and spectral behavior of benzoxazolium indolo- (or  
benzofurano)quinolinium bisethiodide cyanine dyes

AU Khalil, Z. H.; Ibrahim, A.

CS Fac. Sci., Assiut Univ., Assiut, Egypt

SO Revue Roumaine de Chimie (1983), 28(7), 725-32

CODEN: RRCHAX; ISSN: 0035-3930

DT Journal

LA English

CC 41-6 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic  
Sensitizers)

Section cross-reference(s): 27

OS CASREACT 100:69846

GI

/ Structure 6 in file .gra /

AB Reaction of 2-[2-(3-ethylbenzoxazolium-2-yl)-1,2-dibromoethyl]-  
ethylquinolinium diiodide [88653-39-8] with arylamines or phenols gave I  
(X = NH; R = H, Me, OMe, Cl, NO2, CO2H, OH, benzo) or I (X = O; R = OH,  
benzo), resp. The structures of the compds. were detd. by anal. and  
spectral data. I (X = NH, R = 5-OMe) [88659-31-8] was more active than I  
(X = O, R = 7-OH) [88653-42-3] in tests for bactericidal activity;  
neither compd. exhibited appreciable fungicidal activity.

ST dimethine cyanine synthesis biol activity; bactericide dimethine cyanine  
dye; benzoxazole dimethine cyanine dye; quinoline dimethine cyanine dye;  
indole bridge dimethine cyanine; benzofuran bridge dimethine cyanine;  
bridging dimethine cyanine dye; UV cyanine dye substituent effect;  
biscationic dimethine cyanine

IT Bactericides, Disinfectants, and Antiseptics  
(biscationic dimethine cyanine dyes)

IT Dyes, cyanine

(biscationic dimethine, with benzofurano or indolo bridge, prepn. and  
biol. activity and spectra of)

IT Phenols, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclization reaction of, with dibromoethyl-substituted heterocyclic  
onium compd., bridged dimethine cyanine dyes by)

IT Ultraviolet and visible spectra

(of biscationic dimethine cyanine dyes with benzofurano or indolo  
bridge, substituent effect on)

IT Ring closure and formation

(of dibromoethyl-substituted heterocyclic onium compd. with arylamines  
and phenols, bridged dimethine cyanine dyes by)

IT Amines, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(aryl, cyclization reaction of, with dibromoethyl-substituted heterocyclic onium compd., bridged dimethine cyanine dyes by)

IT 606-55-3  
· RL: USES (Uses)  
    (condensation of, with formylbenzoxazolium ethiodide)  
IT 62-53-3, reactions 90-15-3 91-59-8 95-55-6 100-01-6, reactions  
104-94-9 106-47-8, reactions 106-49-0, reactions 118-92-3  
120-80-9, reactions 134-32-7 135-19-3, reactions 150-13-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
    (cyclization reaction of, with dibromoethyl-substituted heterocyclic onium compd.)  
IT \*\*\*62667-36-1P\*\*\*  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
    (prepn. and bromination of)  
IT 62667-26-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
    (prepn. and condensation with methylquinolinium ethiodide)  
IT 88653-40-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
    (prepn. and cyclization of)  
IT 88653-39-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
    (prepn. and cyclization reaction with arylamines and phenols)  
IT 5260-37-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
    (prepn. and oxidn. of)  
IT 88653-30-9P 88653-31-0P 88653-32-1P 88653-33-2P 88653-34-3P  
88653-35-4P 88653-36-5P 88653-37-6P 88653-38-7P 88659-29-4P  
88659-30-7P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
    (prepn. and spectra of)  
IT 88653-41-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
    (prepn. of)  
IT 88653-42-3P 88659-31-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
    (prepn., biol. activity and spectra of)

L6 ANSWER 17 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1982:552976 CAPLUS  
DN 97:152976  
ED Entered STN: 12 May 1984  
TI Reductive cycloreversions of tetra(hetero)arylcylobutanes  
AU Horner, Michael; Huenig, Siegfried  
CS Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, D-8700, Fed. Rep. Ger.  
SO Liebigs Annalen der Chemie (1982), (8), 1409-22  
CODEN: LACHDL; ISSN: 0170-2041  
DT Journal  
LA German  
CC 72-4 (Electrochemistry)  
GI Section cross-reference(s): 22, 24, 25, 27

/ Structure 7 in file .gra /

AB tetraphenylcyclobutane [54515-63-8] And pyridyl(phenyl)cyclobutanes (I, where R and R1 are Ph, 2-pyridyl, 4-pyridyl, 1-methyl-2-pyridiniumyl, or 1-methyl-4-pyridiniumyl) undergo rapid [.sigma.2s + .sigma.2s] cycloreversion upon electrochem. redn. after accepting 1 electron. Also, ring opening to the butane deriv. (II) after addn. of 2 electrons is demonstrated for I (R = R1 = 1-methyl-4-pyridiniumyl). The corresponding dipyridylethenes and styrylpyridines form either reversible 2-step redox systems or are reduced irreversibly. In the latter case, the primarily formed radical (e.g. III) dimerizes to form the a compd. (e.g. IV). Reductive and oxidative ring cleavages of cyclobutanes, known from the

literature, are discussed.  
ST reductive cycloreversion tetraaryl(cyclobutane; electrochem redn  
cyclobutane deriv; pyridylcyclobutane electroredn; pyridiniumylcyclobutane  
electroredn  
IT Dimerization  
(in electroredn. cycloreversions of tetra(hetero)aryl(cyclobutanes)  
IT Reduction, electrochemical  
(of tetra(hetero)aryl(cyclobutanes, cycloreversions in)  
IT Redox reaction  
(electrochem., in cycloreversions of tetra(hetero)aryl(cyclobutanes)  
IT Ring cleavage  
(electrochem., reductive, of tetra(hetero)aryl(cyclobutanes)  
IT Electric potential  
(redn., of ethene derivs. of methylpyridiniums)  
IT 103-30-0P 538-49-8P 5097-93-8P 13341-40-7P 13362-78-2P  
16375-81-8P \*\*\*40385-96-4P\*\*\* 46740-72-1P 72047-79-1P  
73069-96-2P  
RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, by electroreductive cycloreversions of corresponding  
tetra(hetero)aryl(cyclobutanes)  
IT 83023-08-9P  
RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, in electroreductive cycloreversions of corresponding  
tetra(hetero)aryl(cyclobutanes)  
IT 1718-64-5 \*\*\*73048-56-3\*\*\* 83023-09-0 83023-10-3 83023-11-4  
83023-12-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(redn. of, electrochem.)  
IT 54515-63-8 62210-11-1 62415-98-9 73069-90-6 73070-03-8  
82650-02-0 82661-86-7 83023-07-8 83023-13-6 83059-21-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(redn. of, electrochem., cycloreversions in)

L6 ANSWER 18 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1982:491358 CAPLUS  
DN 97:91358  
ED Entered STN: 12 May 1984  
TI Pyridyl-substituted cyclobutanes via photodimerization of azastilbenes  
AU Horner, Michael; Huenig, Siegfried  
CS Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, D-8700, Fed. Rep. Ger.  
SO Liebigs Annalen der Chemie (1982), (6), 1183-210  
CODEN: LACHDL; ISSN: 0170-2041

DT Journal  
LA German  
CC 22-4 (Physical Organic Chemistry)  
OS CASREACT 97:91358  
AB Monosalts of mono- and diazastilbenes were converted smoothyl into  
cyclobutanes in the cryst. state and/or a soln. The free bases or their  
biol. salts, reacting in soln. only, form partly or exclusively different  
compds. Free energies of epimerization for 1,2,3,4-tetra(4-pyridyl)cyclobutanes and their 1,3-bis- and 1,2,3,4-tetrakis(1-methyl-4-pyridino) salts were detd. from 1H NMR data.

ST dimerization photochem azastilbene; cyclobutane pyridyl epimerization  
IT Free energy  
(of epimerization, of pyridyl-substituted cyclobutanes)  
IT Epimerization and Anomerization  
(of pyridyl-substituted cyclobutanes)  
IT Dimerization  
(photochem., of azastilbenes)  
IT 103-31-1 1135-32-6 1437-15-6 21279-07-2 22919-70-6 22919-72-8  
\*\*\*23904-10-1\*\*\* 26506-25-2 82649-76-1 \*\*\*82649-79-4\*\*\*  
82649-81-8 82649-82-9 82649-83-0 82649-84-1 82649-86-3  
RL: PROC (Process)  
(attempted photodimerization of)  
IT 714-08-9 10129-70-1 22043-61-4 22043-62-5 26485-08-5  
\*\*\*26506-24-1\*\*\* 82649-73-8 82649-74-9 82649-75-0  
\*\*\*82649-78-3\*\*\* 82649-80-7 82649-85-2  
RL: PROC (Process)  
(photodimerization of)  
IT 73078-76-9P 82650-04-2P 82690-81-1P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and NMR of)

IT 82649-91-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and dehydration of)

IT 62210-11-1P 62415-98-9P 64627-50-5P 64665-93-6P 73069-90-6P  
73070-02-7P 82649-87-4P 82649-88-5P 82649-89-6P 82649-90-9P  
82649-92-1P 82649-94-3P 82649-95-4P 82649-96-5P 82649-97-6P  
82649-98-7P 82649-99-8P 82650-00-8P 82650-01-9P 82650-03-1P  
82661-87-8P 82690-77-5P 82690-78-6P 82690-79-7P 82690-80-0P  
82729-12-2P 82729-14-4P 82729-16-6P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

L6 ANSWER 19 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1982:482671 CAPLUS  
DN 97:82671  
ED Entered STN: 12 May 1984  
TI Cleaning solutions for photographic processing apparatus  
PA Konishiroku Photo Industry Co., Ltd., Japan  
SO Jpn. Tokkyo Koho, 7 pp.  
CODEN: JAXXAD  
DT Patent  
LA Japanese  
IC G03C005-00; C11D007-32  
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 57003933	B4	19820123	JP 1975-118479	19750930
PRAI	JP 1975-118479	A	19750930		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 57003933	IC	G03C005-00; C11D007-32
	IPCI	G03C0005-00; C11D0007-32

GI

/ Structure 8 in file .gra /

AB Photog processing equipments are cleaned by using an aq. acidic soln. contg. .gtoreq.1 compd. selected from I, II, III, and (R8)+Zm(R9)+.nX- [R = C1-15 alkyl; R1, R2, R3, R4, R5, R6 = H, C1-5 alkyl, substituted alkyl; R7 = H, C1-4 alkyl, alkoxy; R8, R9 = N-alkylpyridinium, N-sulfoalkylpyridinium; Z = C1-12 alkylene with/without S bond(s), alkenylene; X- = anion; n = 0-3; m = 0.1]. Thus, N-ethylpyridinium chloride 2, K2S2O8 17, NH4NO3 8 g, and 50% H2SO4 8 mL were mixed in H2O to give 1 L cleaning soln. for photog. processing equipments.

ST photog processing app cleaning soln

IT Photographic processing

(app. for, cleaning solns. for)

IT 104-74-5 2294-38-4 5329-14-6 6484-52-2, uses and miscellaneous 7664-93-9, uses and miscellaneous 7697-37-2, uses and miscellaneous 7727-21-1 7727-54-0 20191-53-1 \*\*\*34278-68-7\*\*\* 36591-32-9  
56343-74-9 63084-98-0

RL: USES (Uses)

(cleaning solns. contg., for photog. processing equipments)

L6 ANSWER 20 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1982:152896 CAPLUS

DN 96:152896

ED Entered STN: 12 May 1984

TI Imaging systems with tetra(aliphatic)borate salts

IN Dalzell, Rex J.; Goettert, Edward J.; Tiers, George V. D.

PA Minnesota Mining and Manufacturing Co., USA

SO Eur. Pat. Appl., 43 pp.

CODEN: EPXXDW

DT Patent

LA English

IC G03C001-72; G03C007-02

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 40977	A1	19811202	EP 1981-302296	19810522
	EP 40977	B1	19850123		
	R: BE, CH, DE, FR, GB, IT, SE				
	US 4307182	A	19811222	US 1980-152601	19800523
	CA 1144802	A1	19830419	CA 1981-375643	19810416
	JP 57019734	A2	19820202	JP 1981-77878	19810522
	JP 01051174	B4	19891101		
	BR 8103191	A	19820209	BR 1981-3191	19810522
	ZA 8103471	A	19820728	ZA 1981-3471	19810522
	AU 545890	B2	19850808	AU 1981-70955	19810522
	AU 8170955	A1	19820513		
PRAI	US 1980-152601	A	19800523		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 40977	IC	G03C001-72; G03C007-02
	US 4307182	IPCI	G03C0001-72; G03C0007-02
		IPCI	G03C0001-00; G03C0001-72
		NCL	430/339.000; 430/270.100; 430/338.000; 430/340.000; 430/495.100; 430/914.000; 522/025.000; 522/031.000; 522/066.000; 522/904.000
	CA 1144802	IPCI	G03C0001-00
	JP 57019734	IPCI	G03C0001-72; G03C0005-00
	BR 8103191	IPCI	G03C0001-94
	ZA 8103471	IPCI	G03C
	AU 545890	IPCI	G03C0001-72

AB A photoimaging element with improved speed comprises a polymeric binder, a cationic dye and a tetra(aliph.)borate having the formula [BRR<sub>1</sub>R<sub>2</sub>R<sub>3</sub>]<sub>n</sub>X<sup>+</sup> (R, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub> = aliph. group; X<sup>+</sup> = any cation except H<sup>+</sup>). Thus, a polyester support was coated with a soln. (10% solids) contg. Indolenine Red 50, tetraethylammonium tetramethylborate 100 mg, and poly(vinyl acetate) 5 mL in a 3:1 MeCOEt:PhMe mixt., dried, imagewise exposed and fixed in HCl vapor for 2 min to give an image.

ST photoimaging compn aliph borate

IT Photoimaging compositions and processes  
(tetraaliph. borate salts as)

IT 15094-19-6 15523-24-7 24651-47-6 37668-04-5 44772-63-6  
80995-40-0 81026-56-4 81312-66-5 81312-68-7 81432-42-0

RL: USES (Uses)

(photoimaging compn. contg. dye and polymeric binder and)

IT 9002-89-5

RL: USES (Uses)

(photoimaging compn. contg. dye and tetraaliph. borate salt and)

IT	80988-59-6	80988-63-2	80988-65-4	80988-66-5	80988-68-7
	80988-70-1	80988-72-3	80988-74-5	80988-76-7	80988-78-9
	80988-80-3	80988-82-5	80988-83-6	80988-85-8	80988-87-0
	80988-89-2	80988-91-6	80988-92-7	80988-94-9	80988-96-1
	80988-98-3	80989-00-0	80989-02-2	80989-04-4	80989-06-6
	80989-08-8	80989-10-2	80989-12-4	80989-14-6	80989-16-8
	80989-18-0	80989-20-4	80989-22-6	80989-25-9	80989-27-1
	80989-29-3	80989-31-7	80989-33-9	***80989-35-1***	80989-37-3
	80989-38-4	80989-40-8	80989-41-9	80989-43-1	80989-45-3
	80989-47-5	80989-49-7	80989-50-0	80989-52-2	80989-53-3
	80989-55-5	80989-57-7	80989-59-9	80989-61-3	80989-62-4
	80989-63-5	80989-65-7	81010-57-3	81010-58-4	81010-60-8
	81010-62-0	81010-63-1	81010-65-3	81010-67-5	81010-69-7
	81010-70-0	81010-72-2	81010-74-4	81095-41-2	81120-44-7

RL: USES (Uses)

(photoimaging compn. contg. polymeric binder and tetraaliph. borate salt and)

IT 20766-56-7 80988-55-2

RL: USES (Uses)

(photoimaging compn. contg. tetraaliph. borate salt and)

L6 ANSWER 21 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:515415 CAPLUS

DN 95:115415

ED Entered STN: 12 May 1984  
TI Synthesis of some new styryl oxazolophenoxazine cyanines  
AU Youssef, M. S. K.  
CS Fac. Sci., Assiut Univ., Assiut, Egypt  
SO Revue Roumaine de Chimie (1981), 26(3), 427-34  
CODEN: RRCHAX; ISSN: 0035-3930  
DT Journal  
LA English  
CC 28-14 (Heterocyclic Compounds (More Than One Hetero Atom))  
OS CASREACT 95:115415  
GI

/ Structure 9 in file .gra /

AB The aldehyde I reacted with heterocyclic quaternary salts of quinoline, lepidine, pyridine, and benzoxazole derivs. to give styryl cyanines. Also prepd. were dimethine bases from I. The ethiodide II reacted similarly. The bactericidal properties of the products were detd.  
ST styryl cyanine prepn bactericide; oxazolophenoxazine cyanine prepn bactericide; dimethine cyanine prepn bactericide  
IT Bactericides, Disinfectants and Antiseptics  
(oxazolophenoxazine cyanines and dimethine bases)  
IT 78874-60-9P 78874-61-0P 78874-62-1P 78874-63-2P 78874-64-3P  
78874-65-4P 78874-66-5P 78874-67-6P \*\*\*78874-69-8P\*\*\*  
78874-70-1P \*\*\*78874-71-2P\*\*\* 78874-72-3P \*\*\*78874-73-4P\*\*\*  
78874-74-5P \*\*\*78874-75-6P\*\*\* 78874-76-7P  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(prep. and bactericidal activity of)  
IT 78874-68-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with heterocyclic compds.)  
IT 63195-68-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with heterocyclic quaternary salts)  
IT 5260-37-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with oxazolophenazinecarboxaldehyde deriv.)  
IT 91-63-4 95-21-6 109-06-8 491-35-0 605-59-4 606-55-3 19760-15-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with oxazolophenoxazinecarboxaldehyde deriv.)

L6 ANSWER 22 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1980:214546 CAPLUS  
DN 92:214546  
ED Entered STN: 12 May 1984  
TI Azastilbenes. 2. Photodimerization  
AU Vansant, J.; Toppet, S.; Smets, G.; Declercq, J. P.; Germain, G.; Van Meerssche, M.  
CS Lab. Macromol. Org. Chem., Kathol. Univ. Leuven, Heverlee, Belg.  
SO Journal of Organic Chemistry (1980), 45(9), 1565-73  
CODEN: JOCEAH; ISSN: 0022-3263  
DT Journal  
LA English  
CC 22-4 (Physical Organic Chemistry)  
Section cross-reference(s): 75

AB The photochem. behavior of several azastilbenes was followed in concd. soln. and in the solid state. In MeCN and benzene isomerization and dimerization occur, the reactions being generally faster in MeCN. In MeOH, however, photoredn. as well as photoaddn. of the solvent intervene and are important processes. With irradn. in the solid state, dimerization occurs only for some azastilbenes and their quaternary salts, depending on the orientations of the mols. within the crystal lattice and the distances between adjacent double bonds (3.5-4.2 .ANG.). X-ray anal. has shown that trans-1,2-di-2-pyrazinylethylene crystallizes in two distinct modifications of which only one has a crystal stacking suitable for topochem. dimer formation. The dimers were characterized by 1H and 13C NMR, IR, and mass spectroscopy. The cryst. and mol. structures of five of them were detd. by x-ray diffraction, namely, cyclobutane dimers

of 1,2-di-4-pyridylethylene, 1,2-di-2-pyridylethylene,  
1',2-di-2-pyrazinylethylene (all three r-ctt dimers), and  
1-(3-pyridyl)-2-(2-pyrazinyl)ethylene (r-ctt head-to-head and head-to-tail  
dimers).

ST isomerization photochem azastilbene; dimerization photochem azastilbene;  
crystal structure azastilbene dimer; mol structure azastilbene dimer  
IT Crystal structure  
Molecular structure  
(of azastilbene dimers)  
IT Dimerization  
Isomerization  
(photochem., of azastilbenes)  
IT 62415-98-9 73069-90-6 73069-94-0 73069-95-1 73078-81-6  
RL: PRP (Properties)  
(crystal and mol. structure of)  
IT 645-49-8P  
RL: FORM (Formation, nonpreparative); PREP (Preparation)  
(formation of, via photoisomerization)  
IT 13362-78-2 14987-84-9 73048-52-9  
RL: PRP (Properties)  
(photodimerization and photoisomerization of)  
IT 24274-78-0 62141-47-3 73048-54-1 \*\*\*73048-55-2\*\*\*  
\*\*\*73048-56-3\*\*\* 73048-57-4 73048-58-5 73048-64-3 73048-65-4  
\*\*\*73048-66-5\*\*\* 73069-97-3  
RL: PROC (Process)  
(photodimerization of)  
IT 13341-40-7  
RL: PRP (Properties)  
(photoisomerization and photodimerization of)  
IT 103-30-0  
RL: PRP (Properties)  
(photoreactions of)  
IT 4916-40-9P 4916-57-8P 14802-37-0P 14802-42-7P 14802-45-0P  
54515-63-8P 54515-64-9P 73048-62-1P 73069-91-7P 73069-92-8P  
73069-93-9P 73069-98-4P 73069-99-5P 73070-00-5P 73070-01-6P  
73070-02-7P 73070-04-9P 73078-76-9P 73089-62-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

L6 ANSWER 23 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1980:198354 CAPLUS

DN 92:198354

ED Entered STN: 12 May 1984

TI Azastilbenes. 1. Synthesis, characterization, and structure

AU Vansant, J.; Smets, G.; Declercq, J. P.; Germain, G.; Van Meerssche, M.

CS Lab. Macromol. Org. Chem., Kathol. Univ. Leuven, Heverlee, Belg.

SO Journal of Organic Chemistry (1980), 45(9), 1557-65

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

CC 28-18 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 75

OS CASREACT 92:198354

AB The synthesis of several sym. and asym. azastilbenes is described. Four of them are new compds., namely, 1,2-di(4-isoquinolyl)ethylene, 1-(3-pyridyl)-2-(2-pyrazinyl)ethylene, 1-(3-pyridyl)-2-(4-isoquinolyl)ethylene, and 1-(2-pyrazinyl)-2-(4-isoquinolyl)ethylene. The mol. structure and cryst. stacking of some of these azastilbenes and of the quaternary salts of 1,2-di(2-pyridyl)ethylene and 1,2-di(4-pyridyl)ethylene were detd. by x-ray diffraction on single crystals.

ST azastilbene; stilbene aza; pyrazinyl pyridyl ethylene; isoquinolyl pyridyl ethylene; mol structure azastilbene; crystal structure azastilbene

IT Crystal structure

Molecular structure  
(of azastilbenes)

IT 73048-59-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with isoquinolylcarboxaldehyde)

IT 5780-66-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with phosphonium chloride deriv.)

IT 34377-83-8

IT RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with pyrazinecarboxaldehyde)  
1135-32-6P 13341-40-7P 24274-78-0P 62141-47-3P 73048-52-9P  
73048-53-0P 73048-54-1P \*\*\*73048-55-2P\*\*\* \*\*\*73048-56-3P\*\*\*  
IT RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and crystal structure of)  
IT 22960-16-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reaction with phosphonium chloride deriv.)  
IT 73048-60-9P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and spectra properties of)  
IT 73048-62-1P 73048-63-2P 73048-64-3P 73048-65-4P \*\*\*73048-66-5P\*\*\*  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and spectral properties of)  
IT 14987-84-9P 73048-57-4P 73048-58-5P 73048-61-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)  
IT 500-22-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methylpyrazine)  
IT 109-08-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with pyridylcarboxaldehyde)

L6 ANSWER 24 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1979:610569 CAPLUS

DN 91:210569

ED Entered STN: 12 May 1984

TI Estimation of excited-state redox potentials by electron-transfer  
quenching. Application of electron-transfer theory to excited-state redox  
processes

AU Bock, C. R.; Connor, J. A.; Gutierrez, A. R.; Meyer, Thomas J.; Whitten,  
D. G.; Sullivan, B. P.; Nagle, J. K.

CS Dep. Chem., Univ. North Carolina, Chapel Hill, NC, 27514, USA

SO Journal of the American Chemical Society (1979), 101(17), 4815-24

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

CC 22-4 (Physical Organic Chemistry)

AB Rate consts. for electron-transfer quenching of Ru(bpy)32+\* (bpy =  
2,2'-bipyridine) by a series of org. quenchers were detd. in MeCN (.mu. =  
0.1 M) at 22 .+- .2.degree.. The reactions studied were based on 3  
different series of structurally related quenchers with varying redox  
potentials. They include oxidative quenching both by a series of  
nitroaroms. and by a series of bipyridinium ions and reductive quenching  
by a series of arom. amines. After corrections for diffusional effects,  
the quenching rate consts. fall into classes, both of which can be treated  
successfully using Marcus-Hush theory.

ST electron transfer excited ruthenium bipyridine; kinetics electron transfer  
ruthenium complex

IT Kinetics of electron exchange  
(for quenching of excited ruthenium bipyridine complex)

IT Electron exchange  
(in quenching of excited ruthenium bipyridine complex)

IT Quenching  
(electron-transfer, of excited ruthenium bipyridine complex)

IT 15158-62-0

RL: PRP (Properties)

(electron-transfer quenching of, kinetics of)

IT 91-66-7 98-95-3, properties 99-61-6 99-65-0 99-97-8 100-00-5  
100-22-1 100-25-4 121-69-7, properties 350-46-9 366-29-0  
528-29-0 555-16-8, reactions 603-34-9 618-95-1 619-50-1 619-93-2  
698-69-1 701-56-4 1207-72-3 1528-74-1 4485-08-9 4685-14-7  
41491-80-9 41491-84-3 46493-18-9 46740-72-1 54097-19-7  
\*\*\*72047-78-0\*\*\* 72047-79-1 72047-80-4

RL: PRP (Properties)  
(quenching of excited ruthenium bipyridine complex by, kinetics of)

L6 ANSWER 25 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1979:153483 CAPLUS

DN 90:153483  
ED Entered STN: 12 May 1984  
TI Synthesis of new bis(oxastyryl)cyanine dyes  
AU Osman, Abdel Megied; Khalil, Zarif H.; Youssef, Mohamed Salah K.  
CS Fac. Sci., Assiut Univ., Assiut, Egypt  
SO Indian Journal of Chemistry, Section B: Organic Chemistry Including  
Medicinal Chemistry (1978), 16B(10), 865-8  
CODEN: IJSBDB; ISSN: 0376-4699  
DT Journal  
LA English  
CC 40-7 (Dyes, Fluorescent Whiteners, and Photosensitizers)  
OS CASREACT 90:153483  
GI For diagram(s), see printed CA Issue.  
AB A series of new styryl cyanine dyes was prepd. from benzo[4,5-b;4',5'-b']bisoxazole-2,6-dicarboxaldehyde (I) [51074-05-6]. I and an equimolar amt. of quinaldine ethiodide [606-55-3] in the presence of a strong basic catalyst gave quin-oxa dimethine styryl cyanine dye II (R = CHO) [69710-12-9], which was treated with 5-acetyl-2-methyloxazolo[4,5-b]phenoxazine methiodide [606-55-3] to form II (R = R1) [69710-13-0]. I also reacted with bimol. amts. of heterocyclic onium compds. contg. an active Me group to give cyanines III (R2 = Et, Me; A = pyridine, quinoline, benzoxazole, 5-acetyloxazolo[4,5-b]phenoxazine residue) or with corresponding heterocyclic bases to give IV (A = pyridine, quinoline, benzoxazole); similar cyanine dyes were prepd. from the 3,7-bis(ethiodide) [69710-14-1] of I. The visible absorption spectra of the dyes are discussed.  
ST benzobisoxazole cyanine dye; oxastyryl cyanine dye; spectra cyanine dye  
benzobisoxazole; oxazolophenoxazine cyanine dye  
IT Dyes, cyanine  
(benzobisoxazole-based bisoxastyryl cyanines, prepn. and spectra of)  
IT Ultraviolet and visible spectra  
(of bisoxastyryl cyanine dyes)  
IT 59225-25-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with benzobisoxazolecarboxaldehyde deriv.)  
IT 91-63-4 95-21-6 109-06-8 5260-37-7 19760-15-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation reaction of, with benzobisoxoledicarboxaldehyde)  
IT 606-55-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn. of, by selenium dioxide)  
IT 69710-14-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and condensation reaction with active Me group contg.  
heterocyclic onium compds.)  
IT 51074-05-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. and condensation with active Me group-contg. heterocyclic  
nitrogen compds.)  
IT 69710-04-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and quaternization of)  
IT 69710-12-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(prepn. and reaction with methyloxazolophenoxazine deriv.)  
IT 69709-99-5P 69710-00-5P 69710-01-6P 69710-02-7P 69710-03-8P  
69710-05-0P \*\*\*69710-06-1P\*\*\* \*\*\*69710-07-2P\*\*\* 69710-08-3P  
69710-09-4P \*\*\*69710-10-7P\*\*\* 69710-11-8P 69710-13-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)  
IT 606-55-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzobisoxoledicarboxaldehyde)  
L6 ANSWER 26 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1977:407459 CAPLUS  
DN 87:7459  
ED Entered STN: 12 May 1984  
TI Studies on cyanine dyes. IV. Synthesis of new styryl oxacyanine dyes  
AU Osman, Abdel M.; Youssef, Mohamed S. K.; Khalil, Zarfi H.

CS Fac. Sci., Assiut Univ., Assiut, Egypt  
 SO Journal of Applied Chemistry & Biotechnology (1976), 26(12), 762-7  
 CODEN: JACBBD; ISSN: 0375-9210  
 DT Journal  
 LA English  
 CC 40-12 (Dyes, Fluorescent Whitening Agents, and Photosensitizers)  
 AB Piperidine-catalyzed condensation of benzoxazole-2-carboxaldehyde (I) [62667-25-8] prep. by SeO<sub>2</sub> oxidn. of 2-methylbenzoxazole [95-21-6], with quaternized Me-substituted heterocycles 8-12 h in refluxing EtOH gave 55-70% of the corresponding styrylcyanine dyes. The corresponding dimethine bases were prep. by similar reaction of I with the nonquaternized heterocycles 14-18 h in refluxing EtOH. Reaction of I ethiodide [62667-26-9] with quaternized and nonquaternized compds. under similar conditions gave the corresponding mono- and diquaternary dyes.  
 ST styryl cyanine dye; benzoxazolecarboxaldehyde condensation quaternary heterocycle; cyanine dimethine dye; oxacyanine dimethine dye  
 IT Condensation reaction  
     (of benzoxazolecarboxaldehyde with methyl-substituted heterocyclic nitrogen compds.)  
 IT Dyes, cyanine  
     (dimethine, from benzoxazolecarboxaldehyde)  
 IT 91-63-4 109-06-8 606-55-3 5260-37-7 19760-15-7 59225-25-1  
 RL: USES (Uses)  
     (condensation of, with benzoxazolecarboxaldehyde and its ethiodide)  
 IT 95-21-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
     (oxidn. of)  
 IT 62667-25-8P 62667-26-9P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (prepn. and condensation with methyl-substituted heterocyclic nitrogen compds.)  
 IT 4601-67-6P 62667-27-0P 62667-28-1P 62667-29-2P 62667-30-5P  
     62667-31-6P 62667-32-7P \*\*\*62667-33-8P\*\*\* \*\*\*62667-34-9P\*\*\*  
     \*\*\*62667-35-0P\*\*\* \*\*\*62667-36-1P\*\*\* 62667-37-2P 62667-38-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
     (prepn. of)

L6 ANSWER 27 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1977:405971 CAPLUS

DN 87:5971

ED Entered STN: 12 May 1984

TI 2-Ethenyl imidazolium derivatives

IN Haugwitz, Rudiger D.; Maurer, Barbara V.

PA E. R. Squibb and Sons, Inc., USA

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

IC C07D233-06

INCL 260240000D

CC 28-10 (Heterocyclic Compounds (More Than One Hetero Atom))

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 4006137	A	19770201	US 1975-606387	19750821
PRAI US 1975-606387	A	19750821		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 4006137	IC	C07D233-06
	INCL	260240000D
	IPCI	C07D0233-06; C07D0403-06
	NCL	546/272.700; 546/176.000; 548/306.100; 548/311.700; 548/314.700; 548/315.100; 548/315.400; 548/343.100; 548/343.500; 548/346.100

GI

/ Structure 10 in file .gra /

AB Nematocidal (no data) imidazolium iodides I (R = 4-MeOC<sub>6</sub>H<sub>4</sub>, 2-pyridyl,

1-methyl-2-pyrrolyl, 2-furyl, 4-ClC<sub>6</sub>H<sub>4</sub>, 2-thienyl, 1-naphthyl) were prepd. by treating 1,2-dimethylimidazole with MeI and treating 1,2,3-trimethylimidazolium iodide with RCHO.

ST ethenylimidazolium iodide prepn nematocide; imidazolium iodide ethenyl; aldehyde methylimidazolium iodide condensation

IT Nematocides  
(ethenylimidazolium iodides)

IT 36432-31-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and reaction of, with aldehydes)

IT 62735-03-9P \*\*\*62735-04-0P\*\*\* 62735-05-1P 62735-06-2P  
62735-07-3P 62735-08-4P 62735-09-5P \*\*\*62735-10-8P\*\*\*  
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)  
IT 1739-84-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with methyl iodide)  
IT 66-77-3 98-01-1, reactions 98-03-3 104-88-1, reactions 123-11-5,  
reactions 1121-60-4 1192-58-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with trimethylimidazolium iodide)

L6 ANSWER 28 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1974:484390 CAPLUS

DN 81:84390

ED Entered STN: 12 May 1984

TI Photographic infectious developers

IN Shimamura, Isao; Iijima, Yoo; Hayashi, Katsumi; Iwano, Haruhiko; Shishido, Tadao

PA Fuji Photo Film Co., Ltd.

SO Ger. Offen., 36 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03C

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2363585	A1	19740627	DE 1973-2363585	19731220
	JP 49086024	A2	19740817	JP 1972-128607	19721221
	JP 55001572	B4	19800116		
	GB 1418700	A	19751224	GB 1973-59234	19731220
	US 3984243	A	19761005	US 1973-427171	19731221
PRAI	JP 1972-128607	A	19721221		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	DE 2363585	IC	G03C
		IPCI	G03C0005-30
	JP 49086024	IPCI	G03C0005-30
	GB 1418700	IPCI	G03C0005-30; C07D0471-08
	US 3984243	IPCI	G03C0005-30
		NCL	430/267.000; 430/268.000; 430/462.000; 430/490.000

AB Photog. infectious developers of high initial developing speed, high shelf life, and giving images of high halftone quality contained alkanolamines and bipyridinium salts. Thus, a photog. high contrast film was developed for 90 sec with a developer contg. Rongalite 46, K<sub>2</sub>SO<sub>3</sub>.cntdot.H<sub>2</sub>O 3.5, triethylene glycol 40, hydroquinone 16, N,N'-tetramethylene-2,2'-bipyridinium dibromide (I) 0.100, H<sub>3</sub>BO<sub>3</sub> 2.5, NaBr 1.0, and HN(CH<sub>2</sub>CH<sub>2</sub>OH)<sub>2</sub> (II) 80 g/l. and freshly prepd. or after storage for 60 hr gave relative sensitivity 1.05 or 1.00 and halftone quality 10 or 10, resp., vs. 1.00 or 0.51 and 9 or 3, resp., for a I-free developer contg. 30 g K<sub>2</sub>CO<sub>3</sub> instead of II.

ST photog infectious developer rapid; alkanolamine photog developer; ethanolamine photog developer; bipyridinium photog developer; tetramethylenebipyridinium bromide photog developer; bipyridinium salt photog developer

IT Photographic developers  
(infectious, contg. alkanolamines and bipyridinium salts, for rapid processing)

IT 85-00-7 . 2895-98-9 3688-18-4 32449-27-7 \*\*\*34278-68-7\*\*\*  
40036-98-4  
RL: USES (Uses)  
(photog. infectious developers contg. alkanolamines and, for rapid processing)  
IT 102-71-6, uses and miscellaneous 111-42-2, uses and miscellaneous  
RL: USES (Uses)  
(photog. infectious developers contg. bipyridinium salts and, for rapid processing)  
IT 54326-42-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)  
IT 91-13-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with bipyridine)  
IT 366-18-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with xylylene bromide)

L6 ANSWER 29 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1974:456563 CAPLUS

DN 81:56563

ED Entered STN: 12 May 1984

TI Superadditivity effects in the photographic bleaching process

AU Willems, J. F.

CS Photochem. Res. Dep., Agfa-Gevaert N. V., Mortsel, Belg.

SO Photogr. Process., Proc. Symp. (1973), Meeting Date 1971, 223-38.

Editor(s): Cox, R. J. Publisher: Academic, London, Engl.

CODEN: 28JPA8

DT Conference

LA English

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

AB The development of Ag halide by developer dianions, such as hydroquinone, and the oxidn. of developed Ag by neg. charged oxidizing agents, such as persulfate dianions, are activated highly in much the same way by onium compds. that penetrate into the neg. barrier layer. Pos. charged oxidizing agents are not activated. In addn. to this colloidochem. phenomenon and again on the analogy of the hydroquinone development, other regenerative phenomena occur with reversible redox systems that possess an appropriate redox potential. Some 29 compds. are examd.

ST bleaching photog onium superadditivity

IT Onium compounds

RL: USES (Uses)

(accelerators, for color photog. bleaching solns.)

IT Photographic processing

(color, bleaching solns. for, onium compd. accelerators for)

IT Glycine, N,N'-1,2-ethanediylibis[N-(carboxymethyl)-, iron complexes

Iron, with EDTA

RL: USES (Uses)

(photog. color bleaching solns. contg., onium compd. accelerators for)

IT 61-73-4 81-93-6 85-00-7 104-74-5 581-64-6 1910-42-5 2294-38-4  
2381-85-3 4486-05-9 6283-63-2 14940-90-0 18996-78-6 19125-40-7  
25057-79-8 28335-55-9 32449-27-7 33706-25-1 34030-57-4  
34278-66-5 \*\*\*34278-68-7\*\*\* 36586-67-1 36586-68-2 36586-69-3  
36591-30-7 36591-32-9 36591-38-5 53055-22-4 53055-23-5  
53055-25-7 53055-27-9

RL: USES (Uses)

(photog. color bleaching accelerator)

IT 7447-39-4, uses and miscellaneous 7727-21-1 13746-66-2

RL: USES (Uses)

(photog. color bleaching solns. contg., onium compd. accelerators for)

L6 ANSWER 30 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1974:82691 CAPLUS

DN 80:82691

ED Entered STN: 12 May 1984

TI Bis(pyridinium quaternary salts)

IN Edwards, Philip Neil

PA Imperial Chemical Industries Ltd.

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

IC C07D

INCL 260294800R

CC 27-17 (Heterocyclic Compounds (One Hetero Atom))

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3786058	A	19740115	US 1972-234648	19720314
	US 3875174	A	19750401	US 1973-428677	19731227
	US 3875175	A	19750401	US 1973-428678	19731227
	US 3917626	A	19751104	US 1973-428694	19731227
	US 3939169	A	19760217	US 1973-428692	19731227
PRAI	GB 1971-8071	A	19710329		
	US 1972-234648	A3	19720314		

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 3786058	IC C07D INCL 260294800R IPCI C07D0031-48 NCL 546/265.000; 514/835.000; 544/364.000; 546/255.000; 546/261.000; 546/262.000; 546/266.000; 546/267.000	
	US 3875174	IPCI C07D0031-48 NCL 546/265.000; 514/835.000; 546/255.000; 546/261.000; 546/262.000; 546/267.000	
	US 3875175	IPCI C07D0031-44 NCL 546/265.000; 424/057.000; 514/835.000; 546/255.000; 546/261.000; 546/262.000; 546/267.000	
	US 3917626	IPCI C07D0031-28 NCL 546/265.000; 546/255.000; 546/261.000; 546/262.000; 546/267.000	
	US 3939169	IPCI C07D0213-40 NCL 546/265.000; 546/255.000; 546/261.000; 546/262.000	

GI For diagram(s), see printed CA Issue.

AB The bactericidal quaternary salts I [R = octyl, decyl, dodecyl, X = (CH<sub>2</sub>)<sub>2</sub>, (CH<sub>2</sub>)<sub>3</sub>, CH:CH, NHCONH, CH<sub>2</sub>NHCO, NHCO; Y = MeSO<sub>3</sub>, Cl, Br; linkage at 2, 3, 4], are prep'd. by conventional quaternization of the appropriate bis(pyridine)derivs. Thus, nicotinoyl chloride was treated with 3-(aminomethyl)pyridine and the product quaternized to give I (R = decyl, X = CH<sub>2</sub>NHCO, linkage at 3-position, Y = MeSO<sub>3</sub>). An addnl. 109 compds. are described.

ST pyridine quaternary salt bactericide

IT Bactericides, Disinfectants and Antiseptics  
(bis(pyridinium quaternary salts))

IT Quaternary ammonium compounds, preparation

RL: PREP (Preparation)

(bis(pyridinium))

IT	39641-53-7P	39641-54-8P	39641-55-9P	39641-56-0P	39641-57-1P
	39641-58-2P	39641-59-3P	39641-60-6P	39641-61-7P	39641-62-8P
	39641-63-9P	***39641-64-0P***	39641-65-1P	39641-66-2P	
	39641-67-3P	39641-68-4P	39641-69-5P	39641-70-8P	39641-71-9P
	39641-72-0P	39641-73-1P	39641-74-2P	39641-75-3P	39641-76-4P
	39641-77-5P	39641-78-6P	39641-79-7P	39641-80-0P	39641-81-1P
	39641-82-2P	39641-83-3P	39641-84-4P	39641-85-5P	39641-86-6P
	39641-87-7P	39641-88-8P	39641-89-9P	39641-90-2P	39641-91-3P
	39641-92-4P	39641-93-5P	39641-94-6P	39641-95-7P	39641-96-8P
	39641-97-9P	39641-98-0P	39641-99-1P	39642-00-7P	39642-01-8P
	39642-02-9P	39642-03-0P	39642-05-2P	39642-06-3P	39642-07-4P
	39642-08-5P	39642-09-6P	39642-10-9P	39642-11-0P	39642-12-1P
	39642-13-2P	39642-14-3P	39642-15-4P	39642-16-5P	39642-17-6P
	39642-18-7P	39642-19-8P	39642-20-1P	39642-21-2P	39642-22-3P
	39642-23-4P	39642-24-5P	39642-25-6P	39642-26-7P	39642-27-8P
	39642-28-9P	39642-29-0P	39642-30-3P	39642-31-4P	39642-32-5P
	39642-33-6P	39642-34-7P	39642-35-8P	39642-36-9P	39642-37-0P
	39642-38-1P	39642-39-2P	39642-40-5P	39642-41-6P	39642-42-7P
	39642-43-8P	39642-44-9P	39642-45-0P	39642-46-1P	39642-47-2P
	39642-85-8P	39642-86-9P	39643-15-7P	***39904-47-7P***	
	40481-32-1P	40481-44-5P	50569-71-6P	51355-32-9P	51355-34-1P
	51355-35-2P				

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prep'n. of)

IT 7110-39-6 14180-69-9 17433-19-1 21988-17-0 21998-74-3 25297-38-5

25297-40-9	28489-54-5	28489-56-7	39642-61-0	39642-62-1
39642-63-2	39642-67-6	39642-69-8	39642-76-7	39642-80-3
39642-81-4	39642-82-5	39642-83-6	39642-84-7	39642-87-0
39642-88-1	39642-89-2	39642-90-5	39642-92-7	39642-93-8
39642-94-9	39642-95-0	39642-97-2	39642-98-3	39642-99-4
39643-00-0	39643-01-1	39643-02-2	39643-03-3	39643-04-4
39643-05-5	39643-06-6	39643-07-7	39643-11-3	39643-12-4
39643-13-5				
RL: RCT (Reactant); RACT (Reactant or reagent) (quaternization of)				
IT 102-09-0	10400-19-8	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with (aminomethyl)pyridine)		
IT 822-06-0	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with aminopyridine)			
IT 109-00-2	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with dibromohexane)			
IT 462-08-8	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with hexamethylene diisocyanate)			
IT 629-03-8	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with hydroxypyridine)			
IT 3731-52-0	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with nicotinoyl chloride)			
IT 110-60-1	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with pyridyl isocyanate)			
IT 15268-31-2	RL: RCT (Reactant); RACT (Reactant or reagent) (reaction of, with tetramethylenediamine)			

L6 ANSWER 31 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1973:147095 CAPLUS

DN 78:147095

ED Entered STN: 12 May 1984

TI Two-step redox systems. XI. Diquaternary salts of bipyridyls and dipyridylethylenes. Syntheses and polarography

AU Huenig, Siegfried; Gross, Joerg; Schenk, Wolfgang

CS Inst. Org. Chem., Univ. Wuerzburg, Wuerzburg, Fed. Rep. Ger.

SO Justus Liebigs Annalen der Chemie (1973), (2), 324-38

CODEN: JLACBF; ISSN: 0075-4617

DT Journal

LA German

CC 22-5 (Physical Organic Chemistry)

Section cross-reference(s): 77

GI For diagram(s), see printed CA Issue.

AB The a.c. and d.c. polarog. behavior of the title redox systems I (n = 2,3) and II-IV was exampd. In H<sub>2</sub>O, only the 1st 1-electron redn. steps I-IV .dblharw. radical cation (semiquinone, A) were obsd., whereas in DMF and MeCN the reversible A .dblharw. quinoid I-IV steps were also obsd. The A formation consts. were 107-1010 for I-III and 103 for IV.

ST semiquinone redox bipyridyl deriv; bipyridyl deriv redox system; pyridyl deriv redox system; polarog bipyridyl deriv redox; NMR bipyridyl deriv redox; UV bipyridyl deriv redox; quaternary bipyridyl deriv redox

IT Reduction, electrochemical

(of bipyridyl and dipyridylethylene diquaternary salts)

IT 231-36-7 2764-72-9 4685-14-7 7325-63-5 13096-46-3  
 \*\*\*40385-96-4\*\*\* 41491-80-9 41491-83-2 41491-84-3 41491-85-4

41491-87-6 41491-88-7 41491-89-8 41491-90-1

RL: RCT (Reactant); RACT (Reactant or reagent)  
(polarog. redn. of)

IT 41491-92-3P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

IT 70-23-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with pyridine)

IT 110-86-1, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)  
(with ethyl bromopyruvate)

L6 ANSWER 32 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1973:66156 CAPLUS  
DN 78:66156  
ED Entered STN: 12 May 1984  
TI Comparison of redox potentials. Experimental determination of delocalization energies  
AU Huenig, Siegfried; Steinmetzer, H.-Chr.  
CS Inst. Org. Chem., Univ. Wuerzb., Wuerzburg, Fed. Rep. Ger.  
SO Tetrahedron Letters (1972), (47), 4835-8  
CODEN: TELEAY; ISSN: 0040-4039  
DT Journal  
LA German  
CC 77-7 (Electrochemistry)  
Section cross-reference(s): 22  
GI For diagram(s), see printed CA Issue.  
AB The delocalization energies (DE) of the indole rings of I (R = H, n = 0-4) were detd. from the redox potentials of the system I .dblharw. II (R = H or Me, n = 0-4) and the analogous systems from III (n = 0-4). The DE of the pyridinium and quinolinium rings of IV and V were similarly detd.  
ST delocalization energy redox potential; indole delocalization energy; indolium delocalization energy; pyridinium delocalization energy; quinolinium delocalization energy; resonance energy redox potential  
IT Energy  
(delocalization, of indole, pyridinium derivs. and quinolinium derivs., redox potential in relation to)  
IT Resonance  
(energy, of indole, pyridinium derivs. and quinolinium derivs., redox potential in relation to)  
IT Redox reaction  
(of indole, pyridinium derivs. and quinolinium derivs., delocalization energy in relation to)  
IT Electric potential  
(oxidn.-redn., of indole, pyridinium derivs. and quinolinium derivs., resonance energy in relation to)  
IT 13637-39-3 29419-24-7 38281-08-2 38281-09-3 38281-10-6  
38281-11-7 38292-57-8 40385-81-7 40385-82-8 40385-83-9  
40385-84-0 40385-90-8 40385-92-0 40385-93-1 40385-94-2  
\*\*\*40385-95-3\*\*\* \*\*\*40385-96-4\*\*\*  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidn.-redn. of, delocalization energy in relation to)

L6 ANSWER 33 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1973:16041 CAPLUS  
DN 78:16041  
ED Entered STN: 12 May 1984  
TI Pyridine derivatives  
IN Edwards, Philip Neil  
PA Imperial Chemical Industries Ltd.  
SO Ger. Offen., 63 pp.  
CODEN: GWXXBX

DT Patent  
LA German  
IC C07D  
CC 27-17 (Heterocyclic Compounds (One Hetero Atom))  
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2215503	A	19721012	DE 1972-2215503	19720329
	GB 1339764	A	19731205	GB 1971-8071	19710329
	ZA 7201692	A	19721227	ZA 1972-1692	19720313
	CA 982568	A1	19760127	CA 1972-137067	19720314
	IT 1000017	A	19760330	IT 1972-49266	19720327
	FR 2132121	A5	19721117	FR 1972-10827	19720328
	FR 2132121	B1	19751226		
	BR 7201840	A0	19731220	BR 1972-1840	19720328
	BE 781428	A1	19720929	BE 1972-115731	19720329
	NL 7204232	A	19721003	NL 1972-4232	19720329
	HU 164912	P	19740528	HU 1972-IE497	19720329
	ES 401347	A1	19750401	ES 1972-401347	19720329

AT 323164	B	19750625	AT 1972-2721	19720329
AT 323169	B	19750625	AT 1973-10644	19720329
AT 323170	B	19750625	AT 1973-10645	19720329
CH 575942	A	19760531	CH 1972-4692	19720329
US 3907782	A	19750923	US 1973-428693	19731227
SE 7414473	A	19741118	SE 1974-14473	19741118

PRAI GB 1971-8071

A 19710329

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 2215503	IC	C07D
	IPCI	C07D0031-24
GB 1339764	IPCI	C07D0031-00; A61K0027-00; A61L0013-00; C07D0057-00
ZA 7201692	IPCI	C07D
IT 1000017	IPCI	A61K
FR 2132121	IPCI	A61K0027-00; C07D0057-00; C07D0031-00
BR 7201840	IPCI	C07D0031-22; A61K0007-16
BE 781428	IPCI	C07D; A61K
NL 7204232	IPCI	C07D0031-24; C07D0057-00; A61K0027-00; A61K0007-00; A61K0007-16
HU 164912	IPCI	C07D0031-00; C07D0031-22
ES 401347	IPCI	C07D; A61K
AT 323164	IPCI	C07D0213-75
AT 323169	IPCI	C07D0213-75
AT 323170	IPCI	C07D0213-75
CH 575942	IPCI	C07D0401-02; C07D0401-14
US 3907782	IPCI	C07D0031-44
	NCL	546/265.000
SE 7414473	IPCI	C07D0213-22

GI For diagram(s), see printed CA Issue.

AB Quaternary pyridinium salts I (R = .gtoreq.C8 alkyl, aralkyl, alkoxyalkyl, N-alkylcarbamoylmethyl; X = MeSO<sub>3</sub>, Br, Cl; Q = e.g. CH<sub>2</sub>CH<sub>2</sub>, CH:CH, NHCONH, alkylenedicarboxamido, attached in the 2-, 3-, or 4-positions on the pyridines) (110 compds.) were prep'd. by quaternizing the corresponding pyridines. I were used as disinfectants in dental hygiene preps. Some of the starting pyridines were also prep'd.

ST bispyridinium salt; quaternized doubled pyridine

IT 39641-53-7P	39641-54-8P	39641-55-9P	39641-56-0P	39641-57-1P
39641-58-2P	39641-59-3P	39641-60-6P	39641-61-7P	39641-62-8P
39641-63-9P	***39641-64-0P***	39641-65-1P	39641-66-2P	
39641-67-3P	39641-68-4P	39641-69-5P	39641-70-8P	39641-71-9P
39641-72-0P	39641-73-1P	39641-74-2P	39641-75-3P	39641-76-4P
39641-77-5P	39641-78-6P	39641-79-7P	39641-80-0P	39641-81-1P
39641-82-2P	39641-83-3P	39641-84-4P	39641-85-5P	39641-86-6P
39641-87-7P	39641-88-8P	39641-89-9P	39641-90-2P	39641-91-3P
39641-92-4P	39641-93-5P	39641-94-6P	39641-95-7P	39641-96-8P
39641-97-9P	39641-98-0P	39641-99-1P	39642-00-7P	39642-01-8P
39642-02-9P	39642-03-0P	39642-04-1P	39642-05-2P	39642-06-3P
39642-07-4P	39642-08-5P	39642-09-6P	39642-10-9P	39642-11-0P
39642-12-1P	39642-13-2P	39642-14-3P	39642-15-4P	39642-16-5P
39642-17-6P	39642-18-7P	39642-19-8P	39642-20-1P	39642-21-2P
39642-22-3P	39642-23-4P	39642-24-5P	39642-25-6P	39642-26-7P
39642-27-8P	39642-28-9P	39642-29-0P	39642-30-3P	39642-31-4P
39642-32-5P	39642-33-6P	39642-34-7P	39642-35-8P	39642-36-9P
39642-37-0P	39642-38-1P	39642-39-2P	39642-40-5P	39642-41-6P
39642-42-7P	39642-43-8P	39642-44-9P	39642-45-0P	39642-46-1P
39642-47-2P	39642-48-3P	39642-49-4P	39642-50-7P	39642-51-8P
39642-52-9P	39642-53-0P	39642-54-1P	39642-55-2P	39642-56-3P
39642-57-4P	39642-58-5P	39643-14-6P	39643-15-7P	***39904-47-7P***
40481-32-1P	40481-44-5P	51355-34-1P		

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

IT 840-78-8	1135-32-6	1437-15-6	2682-93-1	4916-57-8	6631-22-7
7110-39-6	13160-06-0	14180-69-9	17252-51-6	17433-19-1	17755-52-1
21988-17-0	21988-19-2	21998-74-3	24950-44-5	25297-38-5	
25297-40-9	28489-54-5	28489-56-7	39642-60-9	39642-61-0	
39642-62-1	39642-63-2	39642-65-4	39642-67-6	39642-69-8	
39642-75-6	39642-76-7	39642-79-0	39642-80-3	39642-81-4	
39642-82-5	39642-83-6	39642-84-7	39642-85-8	39642-86-9	
39642-87-0	39642-88-1	39642-89-2	39642-90-5	39642-92-7	
39642-93-8	39642-94-9	39642-95-0	39642-97-2	39642-98-3	
39642-99-4	39643-00-0	39643-01-1	39643-02-2	39643-03-3	

39643-04-4 39643-05-5 39643-06-6 39643-07-7 39643-08-8

39643-09-9 39643-11-3 39643-12-4 39643-13-5

RL: RCT (Reactant); RACT (Reactant or reagent)  
(quaternization of)

L6 ANSWER 34 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:412282 CAPLUS

DN 77:12282

ED Entered STN: 12 May 1984

TI Solutions for bleaching metallic silver from photographic materials

IN Willems, Jozef F.

PA Agfa-Gevaert A.-G.

SO Ger. Offen., 23 pp.

CODEN: GWXXBX

DT Patent

LA German

IC G03C

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2139401	A	19720217	DE 1971-2139401	19710806
	US 3748136	A	19730724	US 1971-162611	19710714
	BE 770910	A2	19720204	BE 1971-3287	19710804
PRAI	GB 1970-38508	A	19700810		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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DE 2139401	IC G03C	
	IPCI G03C	
US 3748136	IPCI G03C0005-26; G03C0005-32; G03C0007-16	
	NCL 430/427.000; 430/430.000; 430/461.000	
BE 770910	IPCI G03C	

GI For diagram(s), see printed CA Issue.

AB The action of persulfate, dichromate, and Fe<sup>3+</sup>-EDTA chelates as neg. charged oxidants in solns. of pH 3-6 is accelerated by small amts. of a monoonium, a polyonium, or by a redox compd. whose half-wave potential at pH 3 is >230 mV (p-phenylenediamine derivs., thiazine dyes, etc.). Thus, a fine-grain pos. film, developed to a d. of 2.4 was bleached in 5 min to a d. of 2.14 in a soln. contg. (per 1.) K<sub>2</sub>S<sub>2</sub>O<sub>8</sub> 45 and KBr 2.5 g, and to 0.06 if 1 g of the dipyridopyrazidiinium bromide I was also present.

ST silver bleach bath photog; onium silver bleach bath

IT Photographic processing

(silver-bleach bath contg. onium compds. in)

IT	85-00-7	104-74-5	1910-42-5	13362-16-8	16651-68-6	25057-79-8
	28335-55-9	33706-25-1	34030-57-4	***34278-68-7***		36586-67-1
	36586-68-2	36586-69-3	36591-30-7	36591-32-9	36591-38-5	

RL: USES (Uses)

(photog. silver-bleach bath contg.)

L6 ANSWER 35 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1972:108237 CAPLUS

DN 76:108237

ED Entered STN: 12 May 1984

TI Effect of photosensitizing dyes on blood pressure. 3. Depression of hypertension by some photosensitizing dyes

AU Suzue, Seiziro

CS Fac. Med., Kyoto Univ., Kyoto, Japan

SO Kanko Shikiso (1971), No. 80, 1-14

CODEN: KASHAJ; ISSN: 0461-5956

DT Journal

LA Japanese

CC 1 (Pharmacodynamics)

AB The hypertension induced by adrenaline [51-43-4] in rats was depressed when a photosensitizing dye such as Platonin (I) [6009-02-5], Lumin [34436-45-8], and 6-[2-[(5-bromo-2-pyridyl)amino]vinyl]-1-ethyl-2-picolinium iodide [ \*\*\*34415-14-0\*\*\* ] was injected together with adrenaline. This depressive effect of dyes on blood pressure was not dependent upon the season in which the dyes were administered.

ST Platonin blood pressure; Lumin blood pressure; T7 blood pressure; photosensitizer dye hypertension

IT Antihypertensives

IT . (photosensitizing dyes)  
1463-95-2 3571-88-8 34436-45-8  
RL: BIOL (Biological study)  
(antihypertensive)  
IT 51-43-4  
RL: BIOL (Biological study)  
(hypertension from, photosensitizing dyes inhibition of)

L6 ANSWER 36 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1971:428225 CAPLUS  
DN 75:28225  
ED Entered STN: 12 May 1984  
TI Superadditivity of negatively charged developing agents with reducing agents forming stable semiquinones. IX. Superadditivity of redox indicators and Weitz radicals with hydroquinone, ascorbic acid, and sodium dithionite  
AU Willems, J. F.  
CS Photochem. Res. Dep., Mortsel, Belg.  
SO Photographic Science and Engineering (1971), 15(3), 213-29  
CODEN: PSENAC; ISSN: 0031-8760  
DT Journal  
LA English  
CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
AB The extent of the superadditivity effect of org. redox systems, forming stable but not anionic semiquinones with neg. charged developing agents, is detd. by the exact value of their electrochem. potential. Quant. data obtained with the combination of known redox indicators, known superadditive developing agents, and ascorbic acid are presented. Only reducing agents with a redox potential whose value lies between that of ascorbic acid and that of the Ag/Ag halide systems, develop superadditively with ascorbic acid. Consequently, when neg. charged developing agents with still more neg. redox potentials are used (Na dithionite), the no. of redox indicators that give a superadditive effect is substantially extended in the direction of redox indicators with a more neg. redox potential. With these redox systems Weitz radicals can also be employed as superadditive developing agents. The Weitz radicals act as reducing agents for the Ag/Ag halide systems and in this case the regeneration occurs between the stable semiquinone (Weitz radical) and its oxidn. product, i.e., the dialkylbipyridinium salt. The anomalous behavior of the Weitz radicals in the hydroquinone and the ascorbic acid superadditive development is explained by a redox mechanism in which an alkoxy ion is involved.  
ST superadditivity developer photog; ascorbic acid superadditivity photog; sodium dithionite superadditivity photog; Weitz radicals superadditivity photog; hydroquinone superadditivity photog; redox superadditivity photog  
IT Photographic developers  
(superadditivity of, with reducing agents forming semiquinones)  
IT 50-81-7, uses and miscellaneous 123-31-9, uses and miscellaneous  
7775-14-6  
RL: USES (Uses)  
(photographic developer, superadditivity of, with reducing agents forming semiquinones)  
IT 61-73-4 81-93-6 85-00-7 92-43-3 104-74-5 477-73-6 553-24-2  
581-64-6 956-48-9 1010-81-7 1910-42-5 2381-85-3 4486-05-9  
4626-84-0 14940-90-0 21070-61-1 25057-79-8 32449-27-7 33706-18-2  
33706-21-7 33706-25-1 34030-57-4 34278-66-5 \*\*\*34278-68-7\*\*\*  
RL: USES (Uses)  
(photographic developers from hydroquinone and, superadditivity of)

L6 ANSWER 37 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1970:121308 CAPLUS  
DN 72:121308  
ED Entered STN: 12 May 1984  
TI 1-Methyl-2 or 4[2-(2 or 4-pyridyl)vinyl]pyridinium and -quinolinium iodides  
AU Walters, Lee R.; Siegel, Marvin I.  
CS Dep. of Chem., Lafayette Coll., Easton, PA, USA  
SO Caribbean Journal of Science and Mathematics (1968), 1(1), 38-9  
CODEN: CJSCAD; ISSN: 0008-6460  
DT Journal  
LA English  
CC 27 (Heterocyclic Compounds (One Hetero Atom))

AB Equimolar quantities of an aldehyde (2- or 4-pyridinecarboxaldehyde) and an active methylene compd. (1,2-dimethyl- or 1,4-dimethylpyridinium iodide) in MeOH and a catalytic amt. of piperidine or pyridine were refluxed 4 hr. In most cases, the product crystd. upon cooling or upon removal of the solvent. The following compds. were prep'd. (m.p. given):  
1-methyl-2-[2-(2-pyridyl)vinyl]pyridinium iodide, 208-10.degree.;  
1-methyl-4-[2-(2-pyridyl)vinyl]pyridinium iodide, 194-6.degree.;  
1-methyl-2-[2-(2-pyridyl)vinyl]quinolinium iodide, 166-8.degree.;  
1-methyl-4'-[2-(2-pyridyl)vinyl]quinolinium iodide, 232-4.degree.;  
1-methyl-2-[2-(4-pyridyl)vinyl]pyridinium iodide, 212-13.degree.;  
1-methyl-4-[2-(4-pyridyl)vinyl]pyridinium iodide, 224-6.degree.;  
1-methyl-4-[2-(4-pyridyl)vinyl]quinolinium iodide, 216-20.degree.  
(decompn.).

ST pyridinium iodides pyridylvinyl; quinolinium iodides pyridylvinyl; vinylpyridines quinolines; trypanosomicides pyridylvinylpyridinium quinolinium iodides

IT 22919-70-6P \*\*\*26485-06-3P\*\*\* 26485-07-4P 26485-08-5P

26485-10-9P \*\*\*26506-24-1P\*\*\* 26506-25-2P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

L6 ANSWER 38 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1969:512768 CAPLUS

DN 71:112768

ED Entered STN: 12 May 1984

TI Rearrangement of bis(2-pyridylmethyl) ethers, amines, and thio ethers

AU Franz, Hartmut; Buchmann, Gerhard

CS Tech. Hochsch. Chem. "Carl Schorlemmer", Merseburg, Fed. Rep. Ger.

SO Pharmazie (1969), 24(6), 301-5

CODEN: PHARAT; ISSN: 0031-7144

DT Journal

LA German

CC 27 (Heterocyclic Compounds (One Hetero Atom))

GI For diagram(s), see printed CA Issue.

AB The reaction of bis(2-pyridylmethyl) ether (I) with NaNH<sub>2</sub> at room temp. gives a Wittig rearrangement to 1,2-di(2-pyridyl)ethanol; at higher temps. (111.degree.), trans-1,2-di(2-pyridyl)ethylene is obtained. Reaction of 2-(chloromethyl)pyridine with MeNH<sub>2</sub> in an autoclave 5 hrs. at 60.degree. gave a 1st fraction 2-[(methylamino)methyl]pyridine (II), (m. 64.degree.) [its toluenesulfonamide m. 94.degree. (EtOH-H<sub>2</sub>O)], and a 2nd fraction N-methylbis(2-pyridylmethyl)amine (III), (b0.cndot.6 126.degree.) [HCl salt m. 161.degree. (dioxane-EtOH)]. II with 2-(chloromethyl)-pyridine (IV) and 15% NaOH in EtOH gave III. III. MeI (V) m. 180.degree. (dioxane-EtOH). V in tert-BuOH was refluxed 6 hours, with tert-BuOK, and the mixt. left overnight to give 1,2-di(2-pyridyl)-1-(dimethylamino)ethane (VI), b0.cndot.1 124.degree.. Refluxing 1 hr. a mixt. of VI and MeI in HCONMe<sub>2</sub> and N-ethyldicyclohexyl-amine (to increase yields) pptd. deep-red 1,2-di(2-pyridyl)ethylene dimethiodide (VII), m. 284-9.degree. (EtOH-H<sub>2</sub>O). VII was also prep'd. by reaction of 1,2-di(2-pyridyl)ethylene methiodide with MeI. Treating bis[(2-pyridyl)methyl] sulfide with MeI in HCONMe<sub>2</sub> or MeCN at reflux 1 hr. gave VII. To a soln. of 2-pyridylmethyl mercaptan in H<sub>2</sub>O-EtOH with NaOH Me<sub>2</sub>SO<sub>4</sub> was added dropwise and the mixt. heated to 70-80.degree. to give [2-pyridylmethyl] Me sulfide, b20 97.degree.; picrate m. 99.degree. (EtOH). The rearrangements are carbene reactions rather than being of the nature of Stevens rearrangements.

ST pyridylmethyl ethers rearrangement; ethers pyridylmethyl rearrangement; rearrangement ethers pyridylmethyl; amines pyridylmethyl; sulfides pyridylmethyl

IT Rearrangements

(of pyridine derivs., mechanism of)

IT 3145-77-5P 13341-40-7P 19411-85-9P 21035-59-6P 23904-07-6P

23904-08-7P 23904-09-8P \*\*\*23904-10-1P\*\*\* 23904-11-2P

25369-24-8P, Benzenesulfonamide, N-methyl-N-(2-pyridylmethyl)-

27859-62-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

IT 110-86-1, Pyridine

RL: RCT (Reactant); RACT (Reactant or reagent)  
(rearrangement of, mechanism of)

L6 ANSWER 39 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1969:87761 CAPLUS

DN 70:87761  
 ED Entered STN: 12 May 1984  
 TI Condensation of picolinaldehyde methiodide with heterocyclic alkyl iodides. II. Synthesis of 1-(2-pyridyl)-2-heterocyclyl)ethylene dialkiodides  
 AU Lugovkin, B. P.  
 CS Vses. Nauch.-Issled. Inst. Okhr. Tr., Kazan, USSR  
 SO Khimiya Geterotsiklicheskikh Soedinenii (1968), (6), 1071-4  
 CODEN: KGSSAQ; ISSN: 0132-6244  
 DT Journal  
 LA Russian  
 CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))  
 AB To 0.25 g. picolinaldehyde methiodide, m. 183-4.degree., in AcOH, 0.28 g. MeR.R1I (R = 2-quinolyl, R1 = Me) (I) was added with heating, and the mixt. kept overnight to ppt. 75.4% 2-C5H4N(MeI)CH:CHR.R1I (II) (R = 2-quinolyl, R1 = Me), m. 230-1.degree.. Similarly prepd. were the following II (R1 = Me) (III) and II (R1 = Et) (IV) (R, m.p. III, % yield III, m.p. IV, and % yield IV given): 2-quinolyl, -, -, 225-6.degree., 83.2; 6-methyl-2-quinolyl, 228-9.degree., 76.3, 213-14.degree., 71.1; 4-methyl-2-quinolyl, 237-8.degree., 34.3, 230-1.degree., 30.0; benzothiazolyl, 214-15.degree., 75.8, 223-4.degree., 57.7; benzoselenazolyl, 227-8.degree., 66.7, 226-7.degree., 62.0; 5-methoxybenzothiazolyl, 231-2.degree., 78.3, 224-5.degree., 73.4; 5-methoxybenzoselenazolyl, 236-7.degree., 81.6, 228-9.degree., 88.3.  
 ST selenazoles benzo; thiazoles benzo; picolinaldehydes condensations; condensations picolinaldehydes; pyridyl ethylenes methiodides; ethylenes pyridyl methiodides; quinolyl ethylenes methiodides; benzoselenazolyl ethylenes methiodides; benzothiazolyl ethylenes methiodides  
 IT Heterocyclic compounds  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (alkyl iodides, condensation with picolinaldehyde methiodide)  
 IT Condensation, chemical  
 (of picolinaldehyde methiodide with heterocyclic alkyl iodides)  
 IT 3784-97-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (condensation of, with heterocyclic alkyl iodides)  
 IT \*\*\*13206-45-6P\*\*\* 13386-47-5P \*\*\*21928-87-0P\*\*\*  
 \*\*\*21928-88-1P\*\*\* \*\*\*21928-89-2P\*\*\* \*\*\*21928-91-6P\*\*\*  
 \*\*\*21928-92-7P\*\*\* 21928-93-8P \*\*\*21928-94-9P\*\*\*  
 \*\*\*21928-95-0P\*\*\* 21928-96-1P 21928-97-2P 21999-49-5P  
 21999-50-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (prep. of)  
 L6 ANSWER 40 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1968:407840 CAPLUS  
 DN 69:7840  
 ED Entered STN: 12 May 1984  
 TI Polarographic study on Weitz-type reversible redox systems  
 AU Huenig, S.; Gross, J.  
 CS Univ. Wuerzburg, Wuerzburg, Fed. Rep. Ger.  
 SO Tetrahedron Letters (1968), (21), 2599-604  
 CODEN: TELEAY; ISSN: 0040-4039  
 DT Journal  
 LA German  
 CC 77 (Electrochemistry)  
 AB Oxidn.-redn. systems similar to the type studied by E. Weitz (1954), i.e., 4,4'-bipyridinium salts, were studied polarographically. The systems included fused polycyclic compds. contg. 2 pyridine rings, as well as compds. having a vinyl group between 2 pyridine rings. The polarographic potential (vs. Ag/AgCl electrode) and the reversibility and the slope of the log  $i/(id-i)$  vs. potential curve (i is total current and id the diffusion current) are tabulated for 23 Weitz-type systems in H<sub>2</sub>O, HCONMe<sub>2</sub>, and MeCN solns. Formation consts. for the corresponding semiquinones are included for 10 systems. For all of the investigated bis-quaternary salts, independent of structure and of the solvent, the 1st 1-electron redn. was reversible. All of the salts for which reduced form has a meta-quinoid structure exhibit an irreversible 2nd redn. step. 20 references.  
 ST polarog redox systems; redox systems polarog; fused ring redox polarog  
 IT 18941-73-6 21178-08-5 21178-09-6 21178-10-9 21178-11-0  
 21178-12-1 21178-13-2 21178-14-3 21279-04-9 21279-05-0

21279-06-1 21279-07-2 \*\*\*21279-08-3\*\*\* 21279-09-4 21279-10-7  
21279-11-8 21279-12-9 21279-13-0 21279-14-1 21279-15-2  
21520-71-8 21520-72-9 21520-73-0  
RL: PROC (Process)  
(polarography of)

L6 ANSWER 41 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1967:18685 CAPLUS  
DN 66:18685  
ED Entered STN: 12 May 1984  
TI Condensation of 2-pyridinecarboxaldehyde with heterocyclic bases.  
Synthesis of 1-pyridyl-2-quinolyl-, 1-benzothiazolyl-2-pyridyl-, and  
1-benzoselenazolyl-2-pyridylethylenes and their methiodides  
AU Lugovkin, B. P.  
SO Khimiya Geterotsiklicheskikh Soedinenii (1966), (4), 571-4  
CODEN: KGSSAQ; ISSN: 0132-6244  
DT Journal  
LA Russian  
CC 28 (Heterocyclic Compounds (More Than One Hetero Atom))  
GI For diagram(s), see printed CA Issue.  
AB Condensation of 2-pyridinecarboxaldehyde (I) with 2-methylquinoline,  
2-methylbenzothiazole, 5-methoxy-2-methylbenzothiazole, and  
5-methoxy-2-methylbenzoselenazole yielded 1,2-disubstituted ethylenes. An  
equimolal mixt. of I and one of the above compds. was heated in the  
presence of anhyd. ZnCl<sub>2</sub> (20% of I) until elimination of H<sub>2</sub>O was  
completed, the product dissolved with heating in 25 ml. dil. HCl (1:1), 75  
ml. H<sub>2</sub>O added, and soln. neutralized with solid Na<sub>2</sub>CO<sub>3</sub>, the viscous  
product extd. with hot C<sub>6</sub>H<sub>6</sub>, solvent removed, residue washed with Et<sub>2</sub>O,  
and recrystd. from a small vol. C<sub>6</sub>H<sub>6</sub> by addn. of pet. ether to yield 22.4%  
1-(2-pyridyl)-2-(2-quinolyl)ethylene (II), m. 98.degree.; 26.2%  
1-(2-benzothiazolyl)-2-(2-pyridyl)ethylene, (III), m. 126.degree.; 21.7%  
1-(5-methoxy-2-benzothiazolyl)-2-(2-pyridyl)ethylene (IV), m. 92.degree.;  
and 37.7% 1-(5-methoxy-2-benzoselenazolyl)-2-(2-pyridyl)ethylene (V), m.  
121.degree.. The following methiodides were obtained by boiling 30-60  
min. a mixt. of 0.5-0.6 g. base, 1-1.5 ml. MeI, and 3 ml. Ac<sub>2</sub>O, [% yield  
and m.p. (dil. HOAc) given]: dimethiodide of II, 60, 234-5.degree.;  
methiodide of III, 27.3, 223.degree.; methiodide of IV, 37, 233-4.degree.;  
and methiodide of V, 36.7, 243-4.degree.. A mixt. of 2 g. I, 2.67 g.  
lepidine, and 0.4 g. anhyd. ZnCl<sub>2</sub> was heated 10 min. at 140-5.degree. and  
worked up as described above, the viscous product dissolved in 5 ml. Ac<sub>2</sub>O,  
and boiled 1 hr. with 2 ml. MeI, the tarry product recrystd. from 5 ml.  
dil. AcOH to yield 1.4 g. dimethiodide of 1-(2-pyridyl)-2-(4-  
quinolyl)ethylene, m. 237.degree..  
ST BENZOTHIAZOLE PYRIDINE ALDEHYDE CONDENSATION; PYRIDINE QUINOLINE  
CONDENSATION; QUINOLINE PYRIDINE CONDENSATION; SELENAZOLES PYRIDINE  
ALDEHYDE CONDENSATION; THIAZOLES PYRIDINE ALDEHYDE CONDENSATION; PYRIDINE  
QUINOLINE CONDENSATION; QUINOLINE PYRIDINE CONDENSATION; BENZOTHIAZOLE  
PYRIDINE ALDEHYDE CONDENSATION; SELENAZOLES PYRIDINE ALDEHYDE  
CONDENSATION; THIAZOLES PYRIDINE ALDEHYDE CONDENSATION  
IT Condensation, chemical  
(of picolinaldehyde with heterocyclic nitrogen compds.)  
IT 1121-60-4  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with heterocyclic nitrogen compds.)  
IT 7727-37-9D, Nitrogen, heterocyclic  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with picolinaldehyde)  
IT 13206-41-2P 13206-42-3P 13206-43-4P 13206-44-5P \*\*\*13206-45-6P\*\*\*  
13385-43-8P 13386-32-8P 13386-47-5P 14622-53-8P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of)

L6 ANSWER 42 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 1965:37310 CAPLUS  
DN 62:37310  
OREF 62:6597e-h,6598a-b  
ED Entered STN: 22 Apr 2001  
TI Merocyanines with chelating properties  
AU Faller, J. W.; Mueller, A.; Phillips, J. P.  
CS Univ. of Louisville, Louisville, KY  
SO Journal of Organic Chemistry (1964), 29(11), 3450-2  
CODEN: JOCEAH; ISSN: 0022-3263

DT Jurnal.

LA English

CC 46 (Dyes)

GI For diagram(s), see printed CA Issue.

AB cf. Talanta 11, 641-6 (1964). Merocyanine-type solvatochromic chelating agents (I) were prep'd. in 65-85% yields by piperidine-catalyzed condensation of 5-formyl-8-quinolinol with N-Me derivs. of appropriate heterocyclic bases contg. an active Me group (R. X, m.p., and % yield given): 1-methyl-5-ethyl-2-pyridyl (II), iodide, 247.degree., 65; 1-methyl-2-quinolinyl, iodide, 220.degree.; N-methyl-2-quinolinyl, Cl, 255; 1,3,3-trimethyl-2-indolinyl, Cl, 256.degree.. The same reactions of 2-formyl-8-quinolinol (IIa) could be used to prep. the analogous compds. (III) but these were more readily obtained by condensing the appropriate 1-methyl heterocyclic aldehyde with 8-hydroxyquinaldine (IIIa) in Ac2O at 20.degree.. PrOH contg. a few drops of piperidine, 0.01M IIa, and 0.01M 1,2-dimethylpyridinium chloride refluxed 4 hrs. yielded III (R = 1-methyl-2-pyridyl, X = Cl) (IV), m. 236.degree. (EtOH) [HCl salt (IVa), m. 248.degree.]. Equimolar amts. (0.05M) of IIIa and 1-methyl-2-formylpyridinium iodide stirred 40 hrs. in 100 ml. Ac2O and the acetate (80%, m. 212.degree.) hydrolyzed in 100 ml. 10% NaOH at 20.degree. in the dark, the purple crystals (m. 203.degree.) taken up in MeOH and treated with HCl gave IVa. Condensation of 0.1M IIa and pyridine-2-carboxaldehyde in 25 ml. Ac2O at 20.degree. 24 hrs., the acetate hydrolyzed by 20% aq. NaOH and the free base in EtOH treated with HCl gave 60% 2-[(beta)-(8-hydroxy-2-quinolinyl)vinyl]pyridine (V) dihydrochloride, m. 219-22.degree., neutralized in alc. with NaHCO3 to give V, m. 118-19.degree.. V (0.5 g.) heated with 2 ml. MeI and 10 ml. anhyd. Me2CO 72 hrs. in a sealed tube at 65.degree., to give the red methiodide (0.6 g., m. 237-8.degree.) and, after acidification IVa. Similarly, condensations of 1-methyl-3-formylpyridinium chloride, 1-methyl-4-formylpyridinium chloride, and 1-methyl-2-formylquinolinium chloride with IIIa gave III (R and m.p. given): 1-methyl-3-pyridyl (VI), 226-31.degree.; 1-methyl-4-pyridyl (VII), 240.degree. (HCl salt, m. 240.degree.); 1-methyl-2-quinolinyl, 199.degree.. Apparent ionization consts. at pH 1-13 were obtained spectrophotometrically, with K1 identified with the protonated quinoline N atom and K2 with the phenolic OH group (compd., pK1, and pK2): 8-quinolinol (VIII), 5.1, 9.9; II, 3.8, 7.9; IV, 2.7, 9.1; VI, 3.5, 9.7; VII, 2.7, 9.2. By comparison with VIII both ionizations of I and III are larger, a result probably to be expected from the greater ease of removal of protons from cations than from neutral species in general. The solvatochromism of I was more pronounced than that of II. Solvatochromism in VI was almost negligible and in IV and VII there was a decrease in .lambda.max. of only about 50 m.mu. in passing from CHCl3 to aq. base as solvent. Most of the compds. did not form ppts. with metal ions but gave color changes indicative of complex formation. These compds. may be useful as extractive colorimetric systems for Cu and Ni.

IT Chelating agents, Complexing agents  
(8-quinolinol-contg. merocyanine dyes as)

IT Ionization  
(detn. of, of 8-quinolinol-contg. merocyanine dyes)

IT Dyes  
(merocyanine, chelating agents)

IT Spectra, infrared  
Spectra, visible and ultraviolet  
(of 8-quinolinol-contg. merocyanine dyes)

IT Color(s)  
(solvent effect on, in 8-quinolinol-contg. merocyanine dyes)

IT 3H-Indolium compounds, 2-[2-(8-hydroxy-5-quinolyl)vinyl]-1,3,3-trimethyl-, chloride

3H-Indolium compounds, 2-[2-(8-hydroxy-5-quinolyl)vinyl]-1,3,3-trimethyl-, chloride

Quinolinium compounds, 2-[2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, chloride

Quinolinium compounds, 2-[2-(8-hydroxy-5-quinolyl)vinyl]-1-methyl-, chloride, hydrochloride

Quinolinium compounds, 2-[2-(8-hydroxy-5-quinolyl)vinyl]-1-methyl-, iodide

IT 148-24-3, 8-Quinolinol

(ionization const. of)

IT 2186-77-8, Pyridinium, 4-[2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, chloride \*\*\*2240-71-3\*\*\*, Pyridinium, 2-[2-(8-hydroxy-2-

quinolyl)vinyl]-1-methyl-, chloride \*\*\*2240-72-4\*\*\*, Pyridinium,

2-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, iodide, acetate (ester)  
 2240-73-5, 8-Quinolinol, 2-[(2-(2-pyridyl)vinyl]-, dihydrochloride  
 \*\*\*2240-74-6\*\*\*, Pyridinium, 2-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, iodide 2240-75-7, Pyridinium, 3-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, chloride 2246-80-2, Pyridinium, 5-ethyl-2-[(2-(8-hydroxy-5-quinolyl)vinyl]-1-methyl-, iodide 2246-92-6, 8-Quinolinol, 2-[(2-(2-pyridyl)vinyl]- \*\*\*2678-74-2\*\*\*, Pyridinium, 2-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, hydroxide 2897-98-5, Pyridinium, 4-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, chloride, hydrochloride \*\*\*4174-76-9\*\*\*, Pyridinium, 2-[(2-(8-hydroxy-2-quinolyl)vinyl]-1-methyl-, chloride, hydrochloride  
 (prep. of)

L6 ANSWER 43 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1963:426755 CAPLUS

DN 59:26755

OREF 59:4800a-d

ED Entered STN: 22 Apr 2001

TI Primary luster producers for nickel plating baths

PA Schering A.-G.

SO 7 pp.

DT Patent

LA Unavailable

CC 15 (Electrochemistry)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 917092		19630130	GB	
PRAI DE		19601008		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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AB Ni-plated articles with a nonhazy, specular luster can be obtained by the addn. of small quantities of pyridyl or quinolyl alkynes or their N-addn. compds. to conventional Ni-plating baths. These primary luster-producing compds. may be prep'd. by the reaction of the corresponding pyridine or quinoline aldehydes with alkyl pyridines or quinolines at elevated temp. in the presence of ZnCl<sub>2</sub>. From the resulting pyridyl or quinolyl alkynes, the N-addn. compds. may be prep'd. by conventional means by the addn. of alkyl or aryl halides. Examples of suitable primary luster producers are the following: 1,2-di-2-pyridylethane, 1,2-di-4-pyridylethylene, 1-(2-pyridyl)-2-(4-pyridyl)ethylene, 1,4-di-2-pyridylbutane, 2,2'-ethylenabis[4,6-dichloropyridine], ethylenabis[4-formyl-2-pyridine], 2,2'-ethylenabis[3-cyanopyridine], 2,2'-ethylenabis[pyridine-3-sulfonic acid-(2)]-1,2-di-2-quinolylethylene, 1-(3-quinolyl)-2-(4-quinolyl)ethylene, 2,2'-ethylenabis(N-allylpyridinium bromide), 2,2'-ethylenabis-, (N-allyl-4-formylpyridinium bromide), and 4,4'-propylenabis(N-hydroxyethylpyridinium bromide). In order to obtain optimum results from the primary luster producers, there are added to the electrolytes secondary luster producers and wetting agents. As secondary luster producers one or more of the following sulfonic acids, sulfonamides, or sulfimides, or their alkali metal or Ni salts may be used: ethenesulfonic acid, benzaldehydemonoor disulfonic acids, toluenesulfonamides, chlorobenzenesulfonamides, benzoic acid sulfimides, bis(chlorobenzene)disulfimide, and dibenzene disulfimide. The concn. of the primary and secondary luster producers is not crit. and can vary between 0.001 to 0.2 g./l. and 0.5 to 5.0 g./l., resp. The following example shows the bath compn. and the conditions used to obtain a highly lustrous Ni coating: NiSO<sub>4</sub> 260, NiCl<sub>2</sub> 50.0, boric acid 40.0, Na o-benzaldehydesulfonate 1.0, dibenzenedisulfimide 1.0, and 2,2'-ethylenabis(N-allylpyridinium bromide) 0.007 g./l., temp. 50.degree., pH 4.0, and c.d. 4 amp./dm<sup>2</sup>.

IT Benzoic acid disulfimide

(nickel electrodeposition or electroplating from baths contg.)

IT 81-07-2, 1,2-Benzisothiazolin-3-one, 1,1-dioxide

(Ni electrodeposition from baths contg.)

IT 70-55-3, p-Toluenesulfonamide 5182-30-9, 1,3,6-Naphthalenetrisulfonic acid, trisodium salt \*\*\*99949-64-1\*\*\*, Pyridinium, 2,2'-vinylenebis[1-allyl- bromide]

(nickel electrodeposition from baths contg.)

IT 88-39-1, m-Benzenedisulfonic acid, 4-formyl- 91-25-8, Benzenesulfonic acid, o-formyl- 98-10-2, Benzenesulfonamide 98-64-6, Benzenesulfonamide, p-chloro- 1008-72-6, Benzenesulfonic acid,

o-formyl-, sodium salt 1135-32-6, Pyridine, 4,4'-vinylenedi-  
 1184-84-5, Ethenesulfonic acid 1620-03-7, Pyridine, 2,2'-  
 tetramethylenedi- 2618-96-4, Dibenzenesulfonamide 2682-93-1, Pyridine,  
 3,4'-vinylenedi- 2725-55-5, Dibenzenesulfonamide, 4,4'-dichloro-  
 3039-83-6, Ethenesulfonic acid, sodium salt 15332-28-2, Quinoline,  
 2,2'-vinylenedi- 44508-66-9, 1-Propene-2-sulfonic acid 92060-58-7,  
 Isonicotinaldehyde, 2,2'-vinylenedi-  
 (nickel electrodeposition or electroplating from baths contg.)

L6 ANSWER 44 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1962:78787 CAPLUS

DN 56:78787

OREF 56:15293a-c

ED Entered STN: 22 Apr 2001

TI Primary brighteners for electrodeposition of nickel

IN Passal, Frank

PA Metal & Thermit Corp.

DT Patent

LA Unavailable

CC 22 (Electrochemistry)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3008883		19611114	US	19591130
PRAI US			19591130	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3008883	NCL	205/277.000; 205/279.000

AB Pyridine and quinoline derivs. are used as primary brighteners, e.g. 1-(2-quinolylmethyl)pyridinium iodide, 2-(2-quinolylmethyl)iso-quinolinium iodide, 1-(4-quinolylmethyl)pyridinium iodide methiodide, .alpha.-pyridinio-1-methylquinaldinium diiodide, and .alpha.-pyridinio-1-methylquinaldinium methosulfate iodide. These brighteners are added to the extent of 0.01-0.1 g./l. in Watts-type or high-chloride baths. Na lauryl sulfate is used as a wetting agent. As secondary brighteners naphthalenesulfonates, o-sulfobenzaldehydes, saccharin salts, and H2O-sol. arenesulfonic and arylsulfonic acids may be used. Optimum c.d. is 35-40 amp./sq. ft. These primary brighteners bring about brilliant bright Ni deposits with excellent ductility. The concn. of these brighteners may be estd. via the color generated by the reaction of the active methylene group with such reagents as chloranil, picryl chloride, and Na 1,2-naphthoquinone-4-sulfonate in alk. medium.

IT Pyridinium, 1-(2-quinolylmethyl)-, methyl sulfate methosulfate  
 (Ni bright electroplating from baths contg.)

IT Isoquinolinium compounds, 2-(2-quinolylmethyl)-, iodide  
 (in Ni bright plating)

IT \*\*\*99949-64-1\*\*\*, Pyridinium, 2,2'-vinylenebis[1-allyl- bromide]  
 (Ni bright electroplating from bath contg.)

IT 5330-88-1, Pyridinium, 1-(2-quinolylmethyl)-, iodide 5397-49-9,  
 Picolinium, 1-(2-quinolylmethyl)-3-, iodide 6291-05-0, Pyridinium,  
 1-(2-pyridylmethyl)-, iodide methiodide 40123-69-1, Pyridinium,  
 1-(2-quinolylmethyl)-, iodide methiodide 98089-56-6, Pyridinium,  
 1-(2-quinolylmethyl)-, iodide methosulfate  
 (Ni bright electroplating from baths contg.)

IT 7440-02-0, Nickel  
 (electrodeposition or electroplating, baths for)

IT 15332-28-2, Quinoline, 2,2'-vinylenedi- 92060-58-7, Isonicotinaldehyde,  
 2,2'-vinylenedi-  
 (nickel bright electroplating from bath contg.)

IT 2682-93-1, Pyridine, 3,4'-vinylenedi-  
 (nickel electrodeposition or electroplating from baths contg.)

L6 ANSWER 45 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1962:58365 CAPLUS

DN 56:58365

OREF 56:11111c-e

ED Entered STN: 22 Apr 2001

TI Direct positive emulsions

IN Fry, Douglas James; Lea, Bernard' A.

PA Ilford Ltd.

DT Patent

LA Unavailable  
CC 11 (Radiation Chemistry and Photochemistry)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 873937			GB	19581210

PRAI GB

19581210

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

AB A fogged AgCl emulsion (contg. .gtoreq.10 mole % AgBr and (or) AgI) incorporates a desensitizing 1-substituted [2-(2-pyridyl)vinyl]pyridinium salt where the 1-substituent is an alkyl, allyl, aralkyl, or halogen-substituted aralkyl group. The pyridinium ring is linked to the 2-(2-pyridyl)vinyl group in either the 2 or 4 position. Thus, heating a mixt. of 0.91 g. 1-(2-pyridyl)-2-(4-pyridyl)-ethylene and 0.7 g. benzyl chloride at 95.degree. for 30 min., grinding the solid product with dry C6H6, and filtering gave 100% 1-benzyl-4-(2-pyridylvinyl)pyridinium chloride, m. 209-11.degree.. Similarly prep'd. were (m.p. given): 1-benzyl-2-(2-pyridylvinyl)pyridinium chloride, 180-3.degree.; 1-ethyl-4-(2-pyridylvinyl)pyridinium p-toluenesulfonate, 127-30.degree.; 1-methyl-2-(2-pyridylvinyl)pyridinium iodide, 213-14.degree.; 1-ethyl-2-(2-pyridylvinyl)pyridinium iodide, 195-8.degree.; 1-benzyl-4-(2-pyridylvinyl)pyridinium bromide, 198-200.degree. (de-comp.); 1-allyl-4-(2-pyridylvinyl)pyridinium bromide, 185-7.degree.; and 1-(p-chlorobenzyl)-4-(2-pyridylvinyl)pyridinium chloride, 178-80.degree..

IT Photography

(desensitizers for, for direct-pos. emulsions, 1-substituted [2-(2-pyridyl)vinyl]pyridinium salt)

IT 114887-49-9, Pyridinium, 1-(9-acridinylmethyl)- (1-alkyl[2-(2-pyridyl)vinyl]-, salts, as photographic desensitizers for direct pos. emulsions)

IT \*\*\*26506-24-1\*\*\*, Pyridinium, 1-methyl-2-[2-(2-pyridyl)vinyl]-, iodide \*\*\*95725-33-0\*\*\*, Pyridinium, 1-ethyl-2-[2-(2-pyridyl)vinyl]-, iodide 97528-76-2, Pyridinium, 1-allyl-4-[2-(2-pyridyl)vinyl]-, bromide 98762-49-3, Pyridinium, 1-(p-chlorobenzyl)-4-[2-(2-pyridyl)vinyl]-, chloride 98822-69-6, Pyridinium, 1-benzyl-4-[2-(2-pyridyl)vinyl]-, bromide \*\*\*98822-77-6\*\*\*, Pyridinium, 1-benzyl-2-[2-(2-pyridyl)vinyl]-, chloride 98822-78-7, Pyridinium, 1-benzyl-4-[2-(2-pyridyl)vinyl]-, chloride 105863-29-4, Pyridinium, 1-ethyl-4-[2-(2-pyridyl)vinyl]-, p-toluenesulfonate (prep'n. of)

L6 ANSWER 46 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1961:135957 CAPLUS

DN 55:135957

OREF 55:25562b-d

ED Entered STN: 22 Apr 2001

TI Desensitizing agents for direct positive emulsions

IN Fry, Douglas James; Lea, Bernard A.

PA Ilford Ltd.

DT Patent

LA Unavailable

CC 5 (Photography)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 871938		19610705	GB	
US 3035917		1962	US	

CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

US 3035917 NCL 430/597.000; 546/255.000

AB The treatment of a dipyridylethylene compd. with an alkyl or aralkyl salt produces a compd. used as a desensitizing agent in photographic emulsions. Thus, 0.91 g. 1,2-di(2-pyridyl)ethylene and 5 g. p-MeC6H4SO3Me, after 1.5 hrs. at 130.degree., were boiled with C6H6 to give 2.7 g. 1,2-di(2-pyridyl)ethylene bis(metho-p-toluenesulfonate), m. 277.degree.. Similarly prep'd. were 1,2-di(2-pyridyl)ethylene bis(etho-p-toluenesulfonate), m. 220.degree., 1-(2-pyridyl)-2-(4-pyridyl)ethylene bis(etho-p-toluenesulfonate), m. 184-6.degree., 1-(2-pyridyl)-2-(4-

pyridyl)ethylene bis(benzyl bromide), m. 220-5.degree.,  
1,2-di(4-pyridyl)ethylene bis(etho-p-toluenesulfonate), m. 174-8.degree.,  
1,2-di(4-pyridyl)ethylene bis(benzyl chloride), m. 285.degree.,  
7-(3-pyridyl)-2-(4-pyridyl)ethylene bis(benzyl chloride), m. 221.degree.  
(decompn.), 1-(3-pyridyl)-2-(4-pyridyl)ethylene bis(etho-p-  
toluenesulfonate), m. 150-4.degree., 1-(2-pyridyl)-2-(3-pyridyl)ethylene  
bis(benzyl chloride), m. 220.degree., and 1,2-di(2-pyridyl)ethylene  
bis(benzyl bromide), m. 244-5.degree..

IT Photography  
(desensitizers, for direct pos. emulsions, dipyridylethylene derivs.  
as)  
IT 34259-80-8, Pyridinium, 4,4'-vinylenebis[1-benzyl-chlorides]  
124121-72-8, Pyridinium, 3,4'-vinylenebis[1-benzyl-chlorides]  
124121-89-7, Pyridinium, 2,3'-vinylenebis[1-benzyl-chlorides]  
(manuf. of and use as sensitizers in direct pos. emulsions)  
IT \*\*\*124140-08-5\*\*\*, Pyridinium, 2,2'-vinylenebis[1-methyl-p-  
toluenesulfonate]  
(manuf. of, and use as desensitizer in direct pos. emulsions)  
IT 33706-25-1, Pyridinium, 2,4'-vinylenebis[1-ethyl-p-toluenesulfonates]  
34278-66-5, Pyridinium, 4,4'-vinylenebis[1-ethyl-p-toluenesulfonates]  
\*\*\*34278-68-7\*\*\*, Pyridinium, 2,2'-vinylenebis[1-ethyl-p-  
toluenesulfonates] 36591-32-9, Pyridinium, 3,4'-vinylenebis[1-ethyl-p-  
toluenesulfonates] 107666-98-8, Pyridinium, 2,4'-vinylenebis[1-benzyl-  
bromides] \*\*\*124121-88-6\*\*\*, Pyridinium, 2,2'-vinylenebis[1-benzyl-  
bromides]  
(manuf. of, and use as desensitizers in direct pos. emulsions)

L6 ANSWER 47 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1961:102326 CAPLUS

DN 55:102326

OREF 55:19240h-i

ED Entered STN: 22 Apr 2001

TI Water-repellent wood binders

IN Seifert, Karl

PA VEB Fettchemie

SO Addn. to Ger. 1,048,402 (CA 55, 3060d)

DT Patent

LA Unavailable

CC 23 (Cellulose, Lignin, Paper, and Other Wood Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 1065162		19590910	DE	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES

AB For binding wood chips, etc., urea resins or other similar adhesives  
contg. quaternary addn. pyridine salts of the formula  $[CnH2n+1$   
 $CON(Me)CH2R]_n + X^-$  or  $[RCH2OCnH2nOCH2R]_{n+2}X^-$ , where R is 1-pyridyl and X is  
halogen, are used to give wood a long-lasting H<sub>2</sub>O-repellency.

IT Wood  
(binding chips, etc., of, with adhesives contg. halogenated pyridinium  
salts)

IT Waterproofing  
(of wood chips, etc., with binders contg. halogenated pyridinium salts)

IT 57-13-6, Urea  
(condensation products, adhesives from, wood H<sub>2</sub>O-repellent bindings by  
pyridinium salt-contg.)

IT \*\*\*124140-08-5\*\*\*, Pyridinium, 2,2'-vinylenebis[1-methyl-p-  
toluenesulfonate]  
(wood binding with water-repellent resin adhesives contg.)

L6 ANSWER 48 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1961:81733 CAPLUS

DN 55:81733

OREF 55:15491b-i

ED Entered STN: 22 Apr 2001

TI Quinoline series. II. Reaction between quinaldine and sulfuric acid

AU Skidmore, S.; Tidd, E.

CS Roy. Tech. Coll., Salford, UK

SO Journal of the Chemical Society, Abstracts (1961) 1098-102

CODEN: JCSAAZ; ISSN: 0590-9791

DT Journal .  
LA Unavailable  
CC 10G (Organic Chemistry: Heterocyclic Compounds)  
AB cf. CA 54, 540d. By reactions between quinaldine (I) and either H<sub>2</sub>SO<sub>4</sub> or S, a pyrroloquinoline (II) was obtained. Evidence was presented in support of this structure and a possible general synthesis of pyrrolo[1,2-a]quinolines by cyclization of quinolylpropanes described. The prepn. and reactions of intermediates in the synthesis were reexamd. I (28 g.) and 6.6 g. concd. H<sub>2</sub>SO<sub>4</sub> refluxed 5 hrs., the product treated with excess 15% NaOH, and steam distd. gave 15.2 g. unchanged I. The 9.3 g. residue in 200 ml. C<sub>6</sub>H<sub>6</sub> extd. with 0.1N HCl, the exts. basified, and the ppt. triturated with Me<sub>2</sub>CO gave 1.3 g. 1,2-di-2-quinolylethane (III), m. 163.degree. (aq. alc.); picrate, orange needles, m. 267.degree. (decompn.). The mother liquor afforded 0.5 g. II, m. 197.degree.; picrate m. 265.degree.; methiodide m. 219.degree. (alc.). The residue consisted of 2.6 g. viscous material. I (29 g.) and 3.2 g. S heated 4 hrs. at the b.p., the soln. steam distd., and the residue dissolved in 5N HCl, the filtrate basified, and the bases extd. gave diquinolylethane, m. 164.degree. and II (0.5 g.) in 20 ml. C<sub>5</sub>H<sub>5</sub>N and H<sub>2</sub>O refluxed 2 hrs. with 2 g. KMnO<sub>4</sub> gave quinaldic acids, m. 153.degree.. II (0.078 g.) in 20 ml. alc. shaken 2 hrs. with H and 1 ml. Raney Ni in alc. gave 0.069 g. 1,2,3,4,5-hexahydro-1,2-di-2-quinolylpyrrolo[1,2-a]quinoline, m. 187.degree.; yellow HCl salt. III (0.57 g.) and 0.44 g. SeO<sub>2</sub> in 20 ml. dioxane refluxed 2 hrs. gave 1,2-di-2-quinolylethylene (IV), yellow needles, m. 189.degree. (MeOH); methiodide m. 212-13.degree. (H<sub>2</sub>O). I (0.3 g.), 0.2 g. IV, and 0.13 g. I.HCl heated 3 hrs. at 100.degree. in a sealed tube gave 0.11 g. 1,2,3-tri-2-quinolylpropane (V), m. 136.degree. (ligroine). Alternatively, BzOH was used as catalyst at 165.degree.. V (0.5 g.) and 0.1 g. S heated 1 hr. at 210.degree. gave 0.32 g. II. 2-Phenyl-1,3-di-2-quinolylpropane (VI) (1.87 g.) and 0.32 g. S heated 1 hr. at 210.degree. and the product chromatographed on Al<sub>2</sub>O<sub>3</sub> gave 0.82 g. 2-phenyl-1-(2-quinolyl)pyrrolo[1,2-a]quinoline, m. 154-6.degree. (aq. Me<sub>2</sub>CO). VI (1.37 g.) in 4 ml. AcOH and 3.2 g. Hg(OAc)<sub>2</sub> in 4 ml. AcOH and 35 ml. H<sub>2</sub>O refluxed 3 hrs. gave 0.46 g. base (VII), m. 154.degree. (alc.). The original aq. filtrate contg. the Hg salts heated and H<sub>2</sub>S passed into the soln. gave a small amt. of VII. VII seemed identical with the product obtained by dehydrogenation of VI with S; red methiodide, m. 228-9.degree. (alc.-Et<sub>2</sub>O). I (5 g.) and 5 g. quinoline-2-aldehyde refluxed 30 hrs. in 1:4 aq. alc. gave 4.1 g. 1-2-di-2-quinolylethanol (VIII), plates, m. 165.degree., and the alc.-insol. material gave 1 g. 1,2-di-2-quinolylethane-1,2-diol (IX), plates, m. 210.degree. (HCONMe<sub>2</sub>). IX (0.10 g.) and 0.5 g. HIO<sub>4</sub> in 20 ml. H<sub>2</sub>O kept 0.5 hr. at 80.degree. and the product treated with 2,4-dinitrophenylhydrazine gave 0.07 g. quinoline-2-aldehyde 2,4-dinitrophenylhydrazone, m. 247-8.degree.. 1,2-Dibromo-1,2-di-2-quinolylethane (0.3 g.) refluxed 5 hrs. with 5 g. KOH in H<sub>2</sub>O and dioxane gave 1,2-di-2-quinolylacetylene, m. 182.degree. (dioxane). VIII (0.31 g.) and 0.12 g. BzOH heated 3 hrs. at 100.degree. in a sealed tube gave 0.13 g. III. Treatment of the residue with hot N HCl and basification gave 0.14 g. 1,2-di-2-quinolylethanone (X), m. 212.degree. (ligroine). IX (0.54 g.) and 5 ml. AcOH refluxed 15 min. gave 0.07 g. III and a red HCl salt which afforded 0.27 g. X.

IT Quinoline, 5-isopropyl-2,5-dimethyl-  
Quinoline, 8-isopropyl-2,8-dimethyl-  
IT 120267-36-9, Pyrrolo[1,2-a]quinoline, 1,2-di-2-quinolyl-  
(and salts)  
IT 91-22-5, Quinoline  
(derivs.)  
IT 3348-11-6, 1,2-Ethanediol, 1,2-di-2-quinolyl- 6246-15-7, Ketone,  
2-quinolyl 2-quinolylmethyl 14148-37-9, Quinaldaldehyde,  
(2,4-dinitrophenyl)hydrazone 15332-28-2, Quinoline, 2,2'-vinylenedi-  
17999-86-9, Quinoline, 2,2'-ethylenedi- 35621-15-9, Thieno[2,3-  
c]quinolin-4(5H)-one 81340-59-2, Quinoline, 2,2'-(2-  
phenyltrimethylene)di- 82342-99-2, Quinoline, 2,2'-ethynylene-  
94542-60-6, Ethanol, 1,2-di-2-quinolyl- 107306-58-1, Quinoline,  
2,2',2'''-(1,2,3-propanetriyl)tri- 107521-83-5, Quinoline,  
8-isopropyl-2,5-dimethyl- 107522-27-0, Quinoline, 5-isopropyl-2,8-  
dimethyl- \*\*\*114330-98-2\*\*\*, Quinolinium, 1-methyl-2-[2-(2-  
quinolyl)vinyl]-, iodide 121760-14-3, Pyrrolo[1,2-a]quinoline,  
2-phenyl-1-(2-quinolyl)- 122095-43-6, Quinolinium, 1-methyl-2-(.beta.-2-  
quinolylmethylphenethyl)-, iodide 124421-87-0, Pyrrolo[1,2-a]quinoline,  
1,2,3,3a,4,5-hexahydro-1,2-di-2-quinolyl- 124421-88-1,  
Pyrrolo[1,2-a]quinoline, 1,2,3,3a,4,5-hexahydro-1,2-di-2-quinolyl-,

hydrochloride 857206-48-5, Quinoline, 2,2'-ethylenedi-, picrate  
(prepn. of)

IT 7664-93-9, Sulfuric acid  
(reaction with quinaldine)

IT 91-63-4, Quinaldine  
(reactions of, with H<sub>2</sub>SO<sub>4</sub>)

L6 ANSWER 49 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1960:31848 CAPLUS

DN 54:31848

OREF 54:61911,6192a-c

ED Entered STN: 22 Apr 2001

TI Quaternized water-dispersible resinous compositions

IN Daniel, John H., Jr.

PA American Cyanamid Co.

DT Patent

LA Unavailable

CC 31 (Synthetic Resins and Plastics)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2914513		19501124	US	

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2914513	NCL	525/329.500; 525/379.000; 526/292.600; 526/923.000

AB The title compns. are obtained by treating a vinyl ester-vinyl haloester copolymer and then allowing it to react with a tertiary amine. The vinyl ester monomers have the general formula CH<sub>2</sub>:C(Me)OOCR, in which R is an alkyl group contg. of 1-17 C atoms. The vinyl haloester monomers are derived from 2-4 C atom .alpha.-halogenated fatty acids. The ratio of reactants is preferably 50-99% by wt. of the former and 1-50% of the latter. Known polymn. procedures are used to prep. copolymers having mol. wts. of .gt; or = 10,000. The requisite hydrophilic properties are obtained by quaternizing about 20% of the basic tertiary N groups. Thus, a mixt. of vinyl chloroacetate 18, vinyl acetate 68.8, Bz2O2 1.29, and C6H6 70 parts was refluxed for 24 h. Then 20 parts of the copolymer soln. was evapd. to dryness at atm. pressure and at 120.degree. in a vacuum. To the remaining 10.5 parts, 2.86 parts pyridine and 40 parts toluene were added. This mixt. was heated on a steam bath and then allowed to evap. to a pasty mass. Dioxane (51.8 parts) was added and dissolved by heating. The solvent was stripped off, and the residue was dissolved in 453 parts 50% iso-PrOH. H<sub>2</sub>O was added to dil. the compn. These quaternary polymers are used to improve the surface characteristics of textile, glass, and metal surfaces.

IT Vinyl compounds, polymers  
(ester-haloester, quaternized by tertiary amines)

IT Quaternary ammonium compounds  
(from vinyl ester-vinyl haloester copolymers and tertiary amine)

IT Polymerization  
(of vinyl acetate, with vinyl chloroacetate)

IT Textiles  
(surface improvement of, quaternized vinyl ester-vinyl haloester polymers for)

IT Glass  
(surface of, quaternized vinyl ester-vinyl haloester polymers for improving)

IT Metals  
(vinyl ester-vinyl haloester polymers (quaternized) for improving surface characteristics of)

IT Acetic acid, chloro-, polymer with vinyl acetate  
(and quaternized derivs. from pyridine and polymers therefrom)

IT \*\*\*124140-08-5\*\*\*, Pyridinium, 2,2'-vinylenebis[1-methyl-p-toluenesulfonate]  
(from vinyl ester-vinyl haloester copolymer reaction with pyridine)

IT 26617-97-0, Vinyl acetate, polymer with vinyl chloroacetate  
(quaternized derivs. by reaction with pyridine)

L6 ANSWER 50 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1959:48092 CAPLUS

DN 53:48092

OREF 53:8637c-d

ED Entered STN: 22 Apr 2001  
TI Permanent water-repellent impregnation  
AU Atlung, Else  
SO Tidsskrift for Textilteknik (1959), 17, 7-11  
CODEN: TTXTA6; ISSN: 0040-7208  
DT Journal  
LA Unavailable  
CC 25 (Dyes and Textiles Chemistry)  
AB A review of water repellents for textiles comprising cation-active and metal-contg. fatty-acid derivs., fat-modified HCHO resins, and silicones. The latter are discussed in greater detail: the theory of their formation, application, and properties of silicone-treated materials. The fluoroochemicals are mentioned as the most recently developed products, and methods for measuring the efficiency and possibilities for identifying the type of repellent used are described. 7 references.  
IT Fatty acids  
    (cation-active and metal-contg. derivs. for water-repellent finishing of textiles)  
IT Chemical compounds  
    (complex or coordination, textile waterproofing compn. contg.)  
IT Waterproofing  
    (of textiles, agents for, and identification of repellents)  
IT Silicones  
    (textile waterproofing by)  
IT Textiles  
    (textile waterproofing or water-repellent finishing of, and identification of repellents for)  
IT 7782-41-4, Fluorine  
    (compounds, for water-repellent finishing of textiles)  
IT \*\*\*124140-08-5\*\*\*, Pyridinium, 2,2'-vinylenebis[1-methyl-p-toluenesulfonate]  
    (for water-repellent finishing of textiles, cationactive)  
IT 50-00-0, Formaldehyde  
    (reaction products of, fat-modified, for water-repellent finishing of textiles)

L6 ANSWER 51 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1958:97955 CAPLUS

DN 52:97955

OREF 52:17257f-i,17258a-b

ED Entered STN: 22 Apr 2001

TI Syntheses of heterocyclic compounds of nitrogen. CXI. Photosensitizing dyes. 17

AU Takahashi, Torizo; Sato, Koichi

CS Univ. Kyoto

SO Yakugaku Zasshi (1958), 78, 467-71

CODEN: YKKZAJ; ISSN: 0031-6903

DT Journal

LA Unavailable

CC 10G (Organic Chemistry: Heterocyclic Compounds)

AB cf. C.A. 52, 14589a. 4-MeC5H4N (7.2 g.) and 10 g. EtBr refluxed 10 hrs., cooled, and the product washed with Et2O and recrystd. from EtOH gave 13 g. 4-MeC5H4N.EtBr, leaves, m. 121.degree.. Similarly is prep'd. 4-MeC6H4N.CH2:CHCH2Br (I), hygroscopic. 4-MeC5H4N, R1CHO, and RX (1 mole each) in 10 ml. EtOH and 5 drops piperidine refluxed 1 hr., cooled and the product recrystd. from EtOH gave 4-R1CH: CHC5H4N.RX (II). II [R, X, R1, and m.p. (decompn.) given]: Et, I, Ph, 167.degree.; Et, I, 1-C10H7, 234-5.degree.; Et, I, p-BrC6H4, 239.degree.; Et, I, p-ClC6H4, 209-10.degree.; Et, I, p-Me2NC6H4, 236-7.degree.; Et, I, p-HOC6H4, 212.degree.; Et, I, m-O2NC6H4, 255.5.degree.; Et, I, 3,4-CH2O2C6H3, 230-1.degree.; Et, I, 3,4-MeO(HO)C6H3, 253-4.degree.; Et, Br, p-Me2NC6H4, 277.degree.; Et, Br, 3,4-CH2O2C6H3, 268.5.degree.; Et, Br, 3,4-MeO(HO)C6H3, 261.degree.; CH2:CHCH2, I, p-Me2NC6H4, 226.degree.. 4-MeC5H4N.RBr and R1N: CHNHR1 (1 mole each) heated 35-45 min. at 150-60.degree., cooled, and the product washed with Et2O and recrystd. from EtOH gave 4-R1NHCH:CHC5H5N.RBr[R, R1, m.p. (decompn.) given]: Et, p-EtOC6H4, 204.degree.; Et, p-MeC6H4, 223-4.degree.; Et, 5,2-BrC5H3N, 186.degree.; Et, 3,5,2-Br2C5H2N, 219-20.degree.; Et, 3,5,2-C12C5H2N, 185-6.degree.; CH2:CHCH2, p-EtOC6H4, 186-7.degree.; CH2:CHCH2, p-MeC6H4, 238.degree.. 4-MeC5H4N.EtI (0.5 g.) and 2-OHCC5H4N in 10 ml. EtOH and 5 drops piperidine refluxed 1 hr., the solvent removed, and the residue washed with Et2O and recrystd. from EtOH gave 0.01 g. 1-ethyl-4-[2-(2-

pyridyl)-vinyl]pyridinium iodide, prisms, m. 182-3.degree.. Similarly, 0.45 g. C9H7N.MeI and 0.21 g. 2-OHCC5H4N gave 0.08 g. 1-methyl-2-[2-(2-pyridyl)vinyl]quinolinium iodide (III), green-purple prisms, m. 177-8.degree.. III (0.4 g.) in 20 ml. EtOH and MeI in large excess refluxed 3 hrs. and the product recrystd. from EtOH gave 0.1 g. 1-methyl-2-[2-(2-methyl-2-pyridinium)vinyl]quinolinium diiodide, green purple needles, m. 243.degree. (decompn.). 4-MeC5H4N.EtI (0.5 g.) and 0.22 g. 2-OHCC5H4N yielded 0.22 g. 1-ethyl-4-[2-(3-pyridyl)vinyl]pyridinium iodide (IV), yellow needles, m. 187.degree. (decompn.). IV (0.2 g.) and EtI in large excess yielded 0.05 g. 1-ethyl-4-[2-(1-methyl-3-pyridinium)vinyl]pyridinium diiodide, yellow needles, m. 233-4.degree. (decompn.). 2,3,4-Trimethylthiazolium iodide (1 g.) and 0.45 g. 3-OHCC5H4N yielded 0.35 g. 1,4-dimethyl-2-[2-(3-pyridyl)vinyl]thiazolium iodide (V), yellow prisms, m. 218.degree. (decompn.). V (0.3 g.) and EtI in large excess yielded 0.1 g. 3,4-dimethyl-2-[2-(3-pyridinium)vinyl]thiazolium diiodide, yellow needles, m. 221-2.degree. (decompn.). V (0.15 g.) and EtI refluxed 3 hrs. and the product recrystd. from EtOH gave 0.06 g. 3,4-dimethyl-2-[2-(1-ethyl-3-pyridinium)vinyl]thiazolium diiodide, yellow needles, m. 200-1.degree. (decompn.).

IT Analgesics  
(heterocyclic esters as)

IT Photography  
(sensitizers, dyes as)

IT Picolinium compounds., 1-allyl-4-, bromide  
Picolinium compounds., 1-ethyl-4-, bromide

IT Thiazolium compounds, 3,4-dimethyl-2-[2-(3-pyridyl)vinyl]-  
(derivs.)

IT 7727-37-9, Nitrogen  
(compds., heterocyclic)

IT \*\*\*779975-24-5\*\*\*, Quinolinium, 1-methyl-2-[2-(2-pyridyl)vinyl]-  
(derivs.)

IT 36232-83-4, Pyridinium, 1-ethyl-4-(p-hydroxystyryl)-, iodide 57439-35-7,  
Pyridinium, 1-ethyl-4-styryl-, iodide 57439-36-8, Pyridinium,  
4-(p-chlorostyryl)-1-ethyl-, iodide 109101-08-8, Pyridinium,  
1-ethyl-3-[2-(4-methyl-2-thiazolyl)vinyl]-, iodide methiodide  
109404-95-7, Pyridinium, 1-allyl-4-(2-p-toluidinovinyl)-, bromide  
109442-00-4, Pyridinium, 1-ethyl-4-(2-p-toluidinovinyl)-, bromide  
109450-79-5, Pyridinium, 1-ethyl-4-(m-nitrostyryl)-, iodide 109841-57-8,  
Pyridinium, 3,4'-vinylenebis[1-ethyl- iodide] 110028-84-7, Pyridinium,  
1-ethyl-4-[2-[2-pyridyl]vinyl]-, iodide 110028-85-8, Pyridinium,  
1-ethyl-4-[2-[3-pyridyl]vinyl]-, iodide 110061-59-1, Pyridinium,  
1-allyl-4-(2-p-phenetidinovinyl)-, bromide 110152-69-7, Pyridinium,  
1-allyl-4-(p-dimethylaminostyryl)-, iodide 110251-10-0, Pyridinium,  
1-ethyl-4-(2-p-phenetidinovinyl)-, bromide 110532-59-7, Pyridinium,  
1-ethyl-4-[2-(1-naphthyl)vinyl]-, iodide 114133-59-4, Pyridinium,  
4-[2-[(3,5-dichloro-2-pyridyl)amino]vinyl]-1-ethyl-, bromide  
114133-61-8, Pyridinium, 4-[2-[(3,5-dibromo-2-pyridyl)amino]vinyl]-1-ethyl-, bromide 114133-64-1, Pyridinium, 4-[2-[(5-bromo-2-pyridyl)amino]vinyl]-1-ethyl-, bromide 132700-03-9, Pyridinium, 4-(p-bromostyryl)-1-ethyl-, iodide  
(prepn. of)

IT 42457-51-2, Pyridinium, 4-(p-dimethylaminostyryl)-1-ethyl- 734499-05-9,  
Pyridinium, 1-ethyl-4-(4-hydroxy-3-methoxystyryl)- 805992-34-1,  
Pyridinium, 1-ethyl-4-(3,4-methylenedioxystyryl)-  
(salts)

L6 ANSWER 52 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1957:99121 CAPLUS

DN 51:99121

OREF 51:17913d-i,17914a-b

ED Entered STN: 22 Apr 2001

TI Copolymerization reactions of trans-1,2-di(2-pyridyl)-ethylene

AU Marvel, C. S.; Tweedie, A. T.; Economy, James

CS Univ. of Illinois, Urbana

SO Journal of Organic Chemistry (1956), 21, 1420-2

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

CC 10 (Organic Chemistry)

AB Dry PhBr (392 g.) in 200 cc. dry Et<sub>2</sub>O added dropwise with stirring to 31 g. Li (small pieces) in 2500 cc. Et<sub>2</sub>O, the mixt. stirred until the Li had

dissolved, treated slowly with 230 g. 2-picoline (I), stirred 2 hrs., cooled in ice-salt, treated with 214 g. pyridine-2-aldehyde (II) in 200 cc. Et2O, and dried. after 1 hr. with 400 cc. H2O and 400 cc. concd. HCl, the aq. layer poured into 455 g. Na2CO3 in 600 cc. H2O and extd. with CHCl3, the ext. distd., and the distillate, b1 145-54.degree., which solidified to a brown waxy solid, recrystd. from Et2O and then petr. ether yielded 60% trans-1,2-di(2-pyridyl)ethylene (III), m. 119-20.degree.. I (186 g.) in 300 cc. Me2CO cooled with ice-salt, treated with 355 g. MeI in 150 cc. Me2CO, kept 5 hrs. at room temp., treated with 214 g. II in 200 cc. EtOH and a few drops of piperidine, kept 2 days, refluxed 8 hrs., and evapd., and the residue recrystd. several times from EtOH gave 92% III.-MeI, m. 205-7.degree.. III.-MeI (20 g.) heated at 200-20.degree. and 3 mm. yielded 3 g. III. Office of Synthetic Rubber soap soln. (IV) (2.9%) (50 cc.), 0.050 g. laurylthiol (V), 2.00 g. III, 2 cc. 3% aq. K2S2O8, 20 cc. C6H6, and 18.0 g. butadiene (VI) charged into a 4-oz. screw-cap bottle, the excess VI boiled out, the bottle tumbled 15 hrs. at 50.degree., and cooled, the mixt. stirred into 10 cc. satd. 2-C10H7NHPH in MeOH and coagulated with 10 cc. salt-acid coagulant, and the latex shredded, washed with H2O, and dried in vacuo gave the copolymer; a sample was repprd. 3 times from C6H6 into MeOH; the copolymer had a solv. of 95-6% in C6H6; the inherent viscosities of materials from 2 runs were 2.3 and 1.7, resp. The % conversion and % incorporation in the 2 identical runs were 60.5 and 5.0, and 66.0 and 5.8, resp. A series of similar copolymerizations of III and VI were carried out at 40.degree. (cc. IV, g. V, g. VI, g. III, cc. C6H6, reaction time in hrs., and % solv. in C6H6, inherent viscosity, % conversion, and % incorporation of the copolymer given): 17.5, 0.021, 9.0, 1.0, -, 40, 99, 2.95, 41, 2.46; 17.5, 0.042, 9.0, 1.0, -, 12, -, 2.79, 75.6, 6.15; 17.5, 0.042, 9.0, 1.0, -, 12, -, 2.94, 77.5, 5.46; 17.5, 0.100, 8.0, 2.0, -, 12, 100, 1.12, 82, 7.0; 17.5, 0.100, 8.0, 2.0, -, 12, 100, 1.71, 72.8, 7.2; 17.5, 0.050, 8.5, 1.5, -, 9, 100, 1.94, 59, 6.1; 17.5, 0.050, 8.5, 1.5, 2, 9, 100, 1.94, 41, 6.1; 25, 0.025, 8.0, 2.0, 5, 13, 100, 1.87, 62.3, 8.3; 24, 0.025, 8.0, 2.0, -, (5 cc. pyridine), 13, 100, 2.21, 50.8, 6.1; 25, 0.025, 8.5, 1.5, 10, 13, 98, 1.8, 48, 7.5; 25, 0.025, 8.5, 1.5, -, (10 cc. cyclohexane), 13, 96, 2.4, 55, 85; 25, 0.025, 8.5, 1.5, -, (1.5 g. trans-stilbene), 10, 13, 88, 1.8, 38, -; 25, 0.025, 8.5, 1.5, 10, 10, 92, 2.32, 53, 8.3; 25, 0.025, 8.5, 1.5, 10, 13, 95, 1.1, 29.5, 7.9 (in this run the monomers were dissolved in C6H6 and then added to the other ingredients); 50, 0.050, 18.0, 2.0, 20, 15, 95, 1.5, 64, 5.3. III (1.5 g.) and 8.50 g. styrene in 50 cc. C6H6 kept 2 hrs. at 50.degree. in the presence of 0.040 g. [Me2C(CN)N]2 (VII), the mixt. poured into petr. ether, and the ppt. extd. in a Soxhlet app. with petr. ether gave copolymer contg. 1.34% N. A similar run with 4.00 g. III and 7.10 g. styrene gave copolymer contg. 3.29% N, while a mixt. of 5.00 g. each of III and styrene yielded copolymer with 4.72% N; the reactivity ratios for styrene and III in these copolymerizations were 1.85 .+- .0.1 and 0.17 .+- .0.1, resp. III (1.50 g.) and 8.50 g. CH2:CHCN (VIII) in 50 cc. HCONMe2 kept 50 min. at 60.degree. in the presence of 0.040 g. VII, the mixt. poured into H2O, and the ppt. extd. with petr. ether in a Soxhlet app. gave the copolymer contg. 24.78% N. A similar run with 5.00 g. III and 5.00 g. VIII gave copolymer contg. 21.44% N, while the copolymer from 3.00 g. III and 7.00 g. VIII contained 19.44% N; the reactivity ratios for VIII and III in these runs were 0.95 .+- .0.05 and 0.02 .+- .0.05, resp. No satisfactory copolymer of III and VI was obtained in C6H6.

IT Polymerization

(of 2,2'-vinylenedipyridine)

IT 1,3-Butadiene, polymer with trans-2,2'-vinylenedipyridine

Acrylonitrile, polymer with trans-2,2'-vinylenedipyridine

Pyridine, 2,2'-vinylenedi-, trans-

Styrene, polymer with trans-2,2'-vinylenedipyridine

IT 110-86-1, Pyridine 110-89-4, Piperidine

(polymethylene derivs.)

IT \*\*\*26506-24-1\*\*\*, Pyridinium, 1-methyl-2-[2-(2-pyridyl)vinyl]-, iodide (prepn. of)

L6 ANSWER 53 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1957:32411 CAPLUS

DN 51:32411

OREF 51:6202b-d

ED Entered STN: 22 Apr 2001

TI Nonextractable rubber softeners

IN Pritchard, James E.

PA Phillips Petroleum Co.  
DT Patent  
LA Unavailable  
CC 30 (Rubber and Other Elastomers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2779747		19570129	US	

CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	US 2779747	NCL	524/099.000; 524/087.000; 524/565.000; 524/925.000; 525/206.000

AB The liquid copolymer from a diene and a copolymerizable heterocyclic N base, such as vinyl pyridine, when quaternized gives a nonextractable softener or plasticizer. For example, butadiene (I) and 2-vinylpyridine (II) were copolymerized at 50.degree. using the following recipe: I 50, II 50, water 180, Na fatty acid soap 5, mercaptan blend 5, K2S2O8 0.3 part. The reaction was short-stopped with hydroquinone, and the polymer stabilized with phenyl-2-naphthylamine, and then coagulated with acid. The liquid copolymer (III) was sepd. from the aq. phase and dried. III was quaternized by heating with benzyl chloride (10% excess) at 60.degree. C. for 120-60 hrs. to give the softener (IV). A stock consisting of 100 parts butadiene-acrylonitrile rubber and 10 parts IV when immersed in a mixt. of 30% toluene and 70% isooctane at 158.degree.F. for 48 hrs. had only 1% of IV extd.

IT Rubber, synthetic  
(heterocyclic N-base-diolefin quaternized polymer plasticizer for)  
IT Nitrile rubbers or Nitrile elastomers  
(plasticizers or softeners for, butadiene-2-vinylpyridine polymers  
quaternized with PhCH2Cl)  
IT Rubber  
(plasticizers or softeners for, diene-heterocyclic N base quaternized  
copolymers)  
IT Olefins  
(polymers of di-, with N heterocyclic bases, quaternized, for rubber  
softening)  
IT 1,3-Butadiene polymers (including copolymers), with 2-vinylpyridine  
(quaternized with PhCH2Cl for nitrile-rubber softening)  
IT 100-44-7, Toluene, .alpha.-chloro-  
(butadiene-2-vinylpyridine polymers quaternized by, for nitrile-rubber  
softening)  
IT 7727-37-9, Nitrogen  
(compds., heterocyclic, polymers with dienes, quaternized for rubber  
softening)  
IT \*\*\*124140-08-5\*\*\*, Pyridinium, 2,2'-vinylenebis[1-methyl-p-  
toluenesulfonate]  
(from vinylpyridine-diene polymers, for rubber softening)  
IT 26572-70-3, Pyridine, 2-vinyl-, polymer with butadiene  
(quaternized with PhCH2Cl for nitrile-rubber softening)

L6 ANSWER 54 OF 56 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1954:69751 CAPLUS

DN 48:69751

OREF 48:12411c-i

ED Entered STN: 22 Apr 2001

TI Syntheses of cyanine dyes. XX. A new synthetic method for a new type of  
trinuclear trimethine dyes

AU Tanabe, Yoshihisa; Yasauda, Michihiro

CS Kanazawa Univ.

SO Yakugaku Zasshi (1954), 74, 814-18

CODEN: YKKZAJ; ISSN: 0031-6903

DT Journal

LA Unavailable

CC 25 (Dyes and Textiles Chemistry)

AB cf. C.A. 48, 8096a. 2-MeC9H6N.EtI (IA) (0.5 g.) is heated on a water bath with 2 ml. SOCl2 and Et2O is added to give 0.65 g. 2-Cl3CC9H6N.EtCl (I), m. 148.degree. (decompn.) (from SOCl2-Et2O). Similarly, 0.2 g. 4-MeC9H6N.EtI (IIA) and SOCl2 give 0.25 g. 4-Cl3CC9H6N.EtCl (II), m. 129-31.degree. (decompn.) (from SOCl2-Et2O). 2-MeC9H6N.HCl (0.5 g.) and 3 ml. SOCl2 heated 2 hrs. on a water bath and Et2O added give only 0.4 g. unreacted starting material, m. 220.degree. (decompn.). I (0.2 g.) and

0.4 g. IA in 0.2 g. AcOK and 0.5 ml. Ac2O heated 5 min. at 120-30.degree., the product washed with Et2O and water give 0.4 g. 1,1',1''-triethyl-10-(2-quinolyl)-2,2'-trimethinequinocyanine diiodide (III), m. 217.degree. (decompn.) (from Me2CO), the max. absorption at 5850 A. I (0.3 g.), 0.6 g. IA, 0.45 g. CdCO3, and 3 ml. xylene heated 10-15 min. at 120-30.degree., the xylene decanted off, the residue washed with water, taken up in a small amt. PhNH2, filtered, the filtrate ptd. with Et2O, the ppt. solidified by adding hot water and recrystd. from EtOH give 0.5 g. III.HI or III-iodide, purple dye, m. 154.degree. (decompn.), the max. absorption at 5850 A. III.HI (0.45 g.) or III-iodide added into 4 ml. concd. NH4OH, heated 30 min. on a water bath, cooled, and the product recrystd. from EtOH give III, purple dye, m. 207.degree. (decompn.), the max. absorption 580 A. II (0.2 g.), 0.4 g. IIA, 0.2 g. AcOK, and 0.5 ml. Ac2O heated 5 min. at 120-30.degree., the product washed with Et2O and water give a small amt. of 1,1',1''-triethyl-10-(4-quinolyl)-4,4'-trimethinequinocyanine diiodide (IV), green dye with the max. absorption at 6700 and 5950 A. II (0.3 g.), 0.6 g. IIA, 0.45 g. CdCO3, and 3 ml. xylene heated 15 min. at 120-30.degree. give 0.75 g. IV.HI or IV-iodide, green dye, m. 184.degree. (decompn.) (from EtOH), the max. absorption at 7100 and 5950 A. Concd. NH4OH heated on a water bath until the evolution of gas ceased, IV.HI or IV-iodide added, heated 1.5 hrs., and the product recrystd. from alc. give IV, blue-green dye, m. 205-10.degree. (decompn.), the max. absorption at 6700 and 5950 A. 2-Methylbenzothiazole-EtI (V) (0.2 g.) treated with a small amt. of SOCl2 and the product treated as in the prepn. of I give 0.2 g. 2-(trichloromethyl)benzothiazole-EtCl (VI), m. 125.degree. (decompn.) (from Et2O). VI (0.2 g.), 0.4 g. V, 0.2 g. AcOK, and 0.5 ml. Ac2O heated 5 min. at 120-30.degree. give 0.35 g. 1,1',1''-triethylmeso-(2-benzothiazolyl)-2,2'-trimethinethiacyanine diiodide (VII), red dye, m. 85.degree., the max. absorption at 5450 A. VI (0.3 g.), 0.6 g. V, 0.45 g. CdCO3, and 3 ml. xylene heated 10-15 min. at 120-30.degree. and the product extd. with PhNH2 give 0.65 g. VII.2HI or VII.diiodide, purple dye, m. 125.degree. (decompn.) (from Me2CO), the max. absorption at 5750 A. VII.2HI (0.5 g.) or VII-diiodide and 4 ml. concd. NH4OH (heated on a water bath until the evolution of gas ceased), let stand at room temp., the product filtered and recrystd. from Me2CO give VII, red dye with the max. absorption at 5450 A.

IT Dyes (cyanine)

IT Dyes (trimethinecyanine, trinuclear)

IT 2,2'-Trimethinequinocyanine diiodide, 1,1',1''-triethyl-10-(2-quinolyl)-2,2'-Trimethinequinocyanine diiodide, 1,1',1''-triethyl-10-(2-quinolyl)-, hydriodide

4,4'-Trimethinequinocyanine diiodide, 1,1',1''-triethyl-10-(4-quinolyl)-4,4'-Trimethinequinocyanine diiodide, 1,1',1''-triethyl-10-(4-quinolyl)-, hydriodide

Quinolinium, 2,2'-[[1-ethyl-2(1H)-quinolylidene)methyl]vinylene]bis[1-ethyl- iodide], hydriodide

Quinolinium, 4,4'-[[1-ethyl-4(1H)-quinolylidene)methyl]vinylene]bis[1-ethyl-iodide], hydriodide

IT 2,2'-Trimethinethiacyanine 1,1''-diiodide, 1,1',1''-triethyl-9-(2-benzothiazolyl)-

Benzothiazolium, 2,2'-[(3-ethyl-2-benzothiazolinylidenemethyl)vinylene]bis[3-ethyl- iodide] (and derivs.)

IT 792880-92-3, Quinolinium, 1-ethyl-4-(trichloromethyl)- 860715-89-5, Quinolinium, 1-ethyl-2-(trichloromethyl)- (chloride)

IT 357-57-3, Brucine (in Strychnos lucida)

IT 112091-29-9, Benzothiazolium, 3-ethyl-2-(trichloromethyl)-, chloride 806638-33-5, Quinolinium, 4,4'-[[1-ethyl-4(1H)-quinolylidene)methyl]vinylene]bis[1-ethyl-iodide] \*\*\*860236-26-6\*\*\* , Quinolinium, 2,2'-[[1-ethyl-2(1H)-quinolylidene)methyl]vinylene]bis[1-ethyl- iodide] (prepn. of)

TI Potential trypanocides of the N-heterocyclic series. VI. Compounds derived from 9-phenanthridinealdehydes  
AU Caldwell, A. G.  
CS Wellcome Research Labs., Beckenham, UK  
SO Journal of the Chemical Society, Abstracts (1952) 2035-41  
CODEN: JCSAAZ; ISSN: 0590-9791  
DT Journal  
LA Unavailable  
CC 10 (Organic Chemistry)  
GI For diagram(s), see printed CA Issue.  
AB cf. C.A. 45, 7121i. 9-Methylphenanthridine (I) (2 g.) and 1.2 g. freshly prep'd. SeO<sub>2</sub> in 20 ml. dioxane and 0.5 ml. H<sub>2</sub>O, refluxed 6.5 hrs. and the filtrate dild. with an equal vol. of EtOH, give 150 mg. 1,2-di(6-phenanthridinyl)ethylene (II) (C.A. numbering for phenanthridine), deep yellow, m. 305-6.degree.; the filtrate from II, evapd. to dryness, the residue extd. with 100 ml. boiling N HCl, and made alk. with 5 N NaOH, yields 1.2 g. 6-phenanthridinealdehyde (III), m. 141-1.5.degree.; a 3-yr.-old unsublimed sample of SeO<sub>2</sub> gave 1.1 g. III. The semicarbazone of III m. 240.degree. (decompn.) [HCl salt, yellow, m. about 215.degree. (decompn.)]. III and Girard reagent P give 1-[2-oxo-2-N'-(6-phenanthridinylmethylene)hydrazinoethyl] pyridinium chloride (IV), pale yellow, m. 245.degree. (decompn.); Girard reagent T gives N,N,N-trimethyl-N-[2-oxo-2-N'-(6-phenanthridinylmethylene)hydrazinoethyl]ammonium chloride (V), pale yellow, m. above 240.degree. (decompn.). The 8-carbethoxyamino deriv. of I (5 g.) and 2 g. SeO<sub>2</sub> in 125 ml. dioxane and 5 ml. H<sub>2</sub>O, refluxed 6 hrs., give 3.8 g. of the 8-carbethoxyamino deriv. (VI), bright yellow, m. 240.degree. (decompn.); semicarbazone, pale yellow, m. 275-80.degree. (decompn.) [HCl salt, red, m. about 215.degree. (decompn.)]. VI and Girard reagent P give the 8-carbethoxyamino deriv. (VII) of IV, yellow, m. about 260.degree. (decompn.); Girard reagent T gives the 8-carbethoxyamino deriv. (VIII) of V, yellow, m. 230.degree. (decompn.). The SeO<sub>2</sub> residues from VI, extd. with boiling PhNO<sub>2</sub>, yields 350 mg. of the 8-carbethoxyamino deriv. of II, deep yellow, m. 280.degree. (decompn.). The 3-carbethoxyamino deriv. (3.5 g.) of I yields 2.25 g. of the 3-carbethoxyamino deriv. (IX) of III, yellow, m. 198-9.degree.; the 3-carbethoxyamino deriv. of II, orange, m. 310.degree. (decompn.) (bath at 295.degree.) or above 360.degree. (slow heating). The 2-carbethoxyamino deriv. of I (40 g.) gives 27.8 g. of the 2-carbethoxyamino deriv. (X) of III, yellow, m. 188-9.degree., and 3.5 g. of the 2-carbethoxyamino deriv. of II, yellow, does not m. at 340.degree.. The 2-NO<sub>2</sub> deriv. of I (5 g.) yields 3.3 g. of the 2-NO<sub>2</sub> deriv. of III, deep yellow, m. 241-2.degree.; 2-NO<sub>2</sub> deriv. of II, deep orange, does not m. at 360.degree.; 2-NO<sub>2</sub> deriv. of V, yellow, m. 260.degree. (decompn.). The 3,8-dicarbethoxyamino deriv. of I (2 g.) and 610 mg. SeO<sub>2</sub> in 80 ml. dioxane and 2 ml. H<sub>2</sub>O, refluxed 7 hrs. and 1 g. of the ppt. (1.6 g.) boiled with 1 l. 2 N HCl, give 450 mg. of the 3,8-dicarbethoxyamino deriv. of III, bright yellow, m. 270-5.degree. (decompn.); Girard reagent P yields the 3,8-dicarbethoxyamino deriv. of IV, bright yellow, darkens at 220.degree. but not melted at 350.degree.. I (500 mg.) and 500 mg. III in 4 ml. Ac<sub>2</sub>O, refluxed 10 min., give 800 mg. II; the other derivs. of II were similarly synthesized. I (1.5 g.) and 1.5 g. III in 30 ml. 80% EtOH, refluxed 3.5 hrs., give 1.95 g. 1, 2-di(6-phenanthridinyl)ethanol (XI), m. 191-2.degree.; 200 mg. XI in 10 ml. dioxane, boiled 6 hrs., gives 30 mg. II; II also results with boiling Ac<sub>2</sub>O. XI (900 mg.) and 250 mg. SeO<sub>2</sub> in 27 ml. dioxane and 1 ml. H<sub>2</sub>O, refluxed 4 hrs., give 700 mg. II. I (2 g.), 1 g. III, and 0.15 ml. concd. H<sub>2</sub>SO<sub>4</sub> heated 1.5 hrs. at 145.degree., the product warmed on the steam bath with 2 N NaOH, boiled with EtOH, and the residue crystd. from C<sub>5</sub>H<sub>5</sub>N, give 2.1 g. 1, 2, 3-tri(6-phenanthridinyl)propane (XII), with 1 mol. C<sub>5</sub>H<sub>5</sub>N, pale yellow, m. 264-6.degree.; XII results in 80 mg. yield by refluxing 6 hrs. 200 mg. XI and 2.5 g. I in 10 ml. dioxane or in 400 mg. yield from 500 mg. III and 2.5 g. I in 20 ml. dioxane (boiled 6 hrs.). I (1 g.) and 1 g. III in 20 ml. dioxane and 0.5 ml. H<sub>2</sub>O, refluxed 7 hrs., give 550 mg. II, 50 mg. XII, and 200 mg. XI. II (8 g.) and 12 ml. Me<sub>2</sub>SO<sub>4</sub> in 80 ml. PhNO<sub>2</sub>, heated 5 min. at 180.degree. and the aq. soln. of the methosulfate treated with HCl, give 3 g. of the dimethochloride (XIII), yellow, m. 255.degree. (decompn.). III (3 g.) and 2.4 g. 2-picoline-MeI in 40 ml. MeOH contg. 0.5 ml. piperidine, refluxed 2.5 hrs., give 2.25 g. 1-methyl-2-[2-(6-phenanthridinyl)vinyl]pyridinium iodide (XIV), yellow, m. 224-6.degree. (decompn.); 4-picoline-MeI gives the 4-[2-(6-phenanthridinyl)vinyl] isomer (XV) (6.75 g. from 4.6 g. III), deep yellow, m. 295.degree. (decompn.). IX (750 mg.), 600 mg. 1-picoline-MeI, 10 ml. EtOH, and 0.1 ml. piperidine,

refluxed 3 hrs., give 1.05 g. of the 8-carbethoxyamino deriv. of XIV, orange, m. 248.degree. (decompn.); hydrolysis with 2.8 ml. concd. H<sub>2</sub>SO<sub>4</sub> and 2.5 ml. H<sub>2</sub>O (30 min. at 150.degree.) gives the 8-NH<sub>2</sub> deriv. of XV, deep red, m. 234-5.degree.. 8-Carbethoxyamino deriv. of XV, orange, m. 265.degree. (decompn.); 8-NH<sub>2</sub> deriv., orange, m. 257-8.degree.. 2-Carbethoxyamino deriv. of XIV (1.7 g. from 1.5 g. X), orange, m. 242.degree. (decompn.); 2-NH<sub>2</sub> deriv., dark red, m. 215.degree. (decompn.), 2-Carbethoxyamino deriv. of XV, orange, m. 255.degree. (decompn.); 2-NH<sub>2</sub> deriv., deep red, m. 270-1.degree.. X (5 g.), 4.5 g. 6-acetamidoquinaldine-MeCl, and 0.1 ml. piperidine in 50 ml. EtOH, refluxed 3 hrs., give 7.5 g. 6-acetamido-2-[2-(2-carbethoxyamino-6-phenanthridinyl)vinyl]-1-methylquinolinium chloride, bright red, m. 260.degree. (decompn.); 6-amino-2-[2-(2-amino-6-phenanthridinyl)vinyl]-1-methylquinolinium bromide (XVI), deep red, decomp. gradually above 280.degree.. The 3-NO<sub>2</sub> deriv. of III gave only intractable gums and the 2, 7-dicarbethoxyamino deriv. with 3-picoline-MeI gave an ill-defined product. IV and V have high antistreptococcal activity in vitro (active at a diln. of 1:1, 000, 000 in a nutrient broth) and IV was chemotherapeutic in exptl. streptococcal infections in mice; VII and VIII are much less active. XIV and XV and derivs. possess high antistreptococcal activity in vitro (1:1, 000, 000) and were effective against streptococcal infections in mice. XIII has high antistreptococcal activity in vitro and slight activity in vivo. XVI was the only compd. to exhibit trypanocidal activity (slight activity against *Trypanosoma rhodesiense*).

IT Trypanocides  
(nitrogen heterocyclic compds.)

IT Streptococcus  
(phenanthridine derivs. active against)

IT Ammonium, (carboxymethyl)trimethyl-, chloride, hydrazide with 6-phenanthridinecarboxaldehyde

Ammonium, (carboxymethyl)trimethyl-, chloride, hydrazone with 6-phenanthridinecarboxaldehyde

Hydrazine, 1-chloroacetyl-2-(6-phenanthridinylmethylene)-, compds. with Me<sub>3</sub>N

Hydrazine, 1-chloroacetyl-2-(6-phenanthridinylmethylene)-, compds. with pyridine

Phenanthridinium compounds, 6,6'-vinylenebis [5-methyl- chloride]

Pyridinium, 1-methyl-4-[2-(6-phenanthridinyl)vinyl]-, iodide

Pyridinium, 4-[2-(8-carbonylamino-6-phenanthridinyl)vinyl]-1-methyl-, iodide, Et ester

IT Hydrazine, 1-[[3,8-bis(carbonylamino)-6-phenanthridinyl)methylene]-2-chloroacetyl-, diethyl ester  
(compn. with pyridine)

IT 24160-09-6, 6-Phenanthridinecarboxaldehyde  
(acyl-hydrazone and other derivs.)

IT 855349-13-2, 8-Phenanthridinecarbamic acid, 6-formyl-, ethyl ester  
(and its acyl-hydrazone, and other derivs.)

IT 7727-37-9, Nitrogen  
(compds. heterocyclic, trypanocides)

IT 1126-58-5, Pyridinium, 1-(carboxymethyl)-, chloride, hydrazide  
(hydrazone with 6-phenanthridinecarboxaldehydes)

IT 6871-83-6, 4,15-Diazadiphenanthro[1,2,3-cd,1',2',3'-1m]perylene-11,22-dione 666237-35-0, 3,8-Phenanthridinedicarbamic acid, 6-formyl-, diethyl ester 855348-45-7, 3-Phenanthridinecarbamic acid, 6,6'-vinylenedi-, diethyl ester 855348-53-7, Phenanthridine, 6,6'-vinylenedi- 855348-55-9, Phenanthridine, 6,6'-vinylenebis[2-nitro- 855348-96-8, Phenanthridine, 6,6',6''-glyceryltri- 855348-97-9, Phenanthridine, 6,6',6''-glyceryltri-, compd. with pyridine 855352-40-8, 3,8-Phenanthridinedicarbamic acid, 6-formyl-, diethyl ester, hydrazone with 1-(carboxymethyl)pyridinium chloride hydrazide 855352-60-2, 8-Phenanthridinecarbamic acid, 6,6'-vinylenedi-, diethyl ester 855602-16-3, 3-Phenanthridinecarbamic acid, 6-formyl-, ethyl ester 855620-94-9, Triazene, 3,3-dimethyl-1-o-picolinoylphenyl- 855640-53-8, 6-Phenanthridinecarboxaldehyde, 2-nitro- 855640-54-9, 6-Phenanthridinecarboxaldehyde, 2-nitro-, hydrazone with 1-(carboxymethyl)pyridinium chloride hydrazide 856374-24-8, Ethanol, 1,2-di-6-phenanthridinyl- 856957-35-2, Pyridinium, 4-[2-(8-amino-6-phenanthridinyl)vinyl]-1-methyl-, iodide 856957-41-0, Pyridinium, 4-[2-(2-amino-6-phenanthridinyl)vinyl]-1-methyl-, bromide  
\*\*\*856957-47-6\*\*\*, Pyridinium, 2-[2-(8-amino-6-phenanthridinyl)vinyl]-1-methyl-, iodide \*\*\*856957-54-5\*\*\*, Pyridinium, 2-[2-(2-amino-6-

phenanthridinyl)vinyl]-1-methyl-, iodide 856958-47-9, Pyridinium, 4-[2-(2-carboxyamino-6-phenanthridinyl)vinyl]-1-methyl-, iodide, Et ester \*\*\*856958-53-7\*\*\*, Pyridinium, 2-[2-(8-carboxyamino-6-phenanthridinyl)vinyl]-1-methyl-, iodide, Et ester \*\*\*856963-28-5\*\*\*, Pyridinium, 1-methyl-2-[2-(6-phenanthridinyl)vinyl]-, iodide 857768-42-4, Hydrazine, 1-chloroacetyl-2-[(2-nitro-6-phenanthridinyl)methylene]-, compd. with pyridine \*\*\*858475-36-2\*\*\*, Quinolinium, 6-amino-2-[2-(2-amino-6-phenanthridinyl)vinyl]-1-methyl-, bromide 859064-25-8, Pyridine, compd. with 6,6',6'''-glyceraltriphenanthridine \*\*\*859296-29-0\*\*\*, Pyridinium, 2-[2-(2-carboxyamino-6-phenanthridinyl)vinyl]-1-methyl-, iodide, Et ester \*\*\*860716-20-7\*\*\*, Quinolinium, 6-acetamido-2-[2-(2-carboxyamino-6-phenanthridinyl)vinyl]-1-methyl-, chloride, Et ester (prepn. of)

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AN 1953:5868 CAPLUS  
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ED Entered STN: 22 Apr 2001  
TI Trinuclear cyanine dyes. V. Attempted synthesis of dyes isomeric with those of the neocyanine type  
AU Hamer, Frances M.  
CS Imperial Coll. Sci. Technol., London  
SO Journal of the Chemical Society, Abstracts (1952) 3197-3211  
CODEN: JCSAAZ; ISSN: 0590-9791  
DT Journal  
LA Unavailable  
CC 5 (Photography)  
OS CASREACT 47:5868  
AB cf. C.A. 45, 6943c. Cl<sub>3</sub>CCHO (I) and 2-methylbenzothiazole (II), heated 8 hrs. on the steam bath, give 42% 2-(3,3,3-trichloro-2-hydroxypropyl)benzothiazole (III), m. 125.degree.. I and 1 mol. 2-methylbenzoselenazole (IV), heated as above, extd. with 3000 cc. petr. ether (b. 60-80.degree.), and the filtrate from the 1st crop of crystals made up to vol. for 3 addnl. extns., give 47% 2-(3,3,3-trichloro-2-hydroxypropyl)benzoselenazole (V), buff, m. 122.degree.. Quinaldine (39 cc.), 1 mol. I, and 100 cc. C<sub>5</sub>H<sub>5</sub>N heated 3 hrs. on the water bath and poured into 500 cc. H<sub>2</sub>O, give 72% 2-(3,3,3-trichloro-2-hydroxypropyl)-quinoline (VI), m. 146-7.degree.. Lepidine (41 cc.), 1 mol. I, and 100 cc. C<sub>5</sub>H<sub>5</sub>N, heated 5 hrs. on the water bath, give 62% (43% after 2 hrs.) 4-(3,3,3-trichloro-2-hydroxypropyl)-quinoline (VII), m. 176-7.degree.. III (22 g.) was added (5 min.) to 18.3 g. KOH in 375 cc. boiling EtOH, boiled an addnl. 10 min., the K salts were washed 3 times with EtOH and dissolved in 210 cc. boiling H<sub>2</sub>O, and the acid was pptd. with AcOH to give 61% 2-benzothiazoleacrylic acid (VIIA), m. 215.degree. (decompn.); addn. of 14.8 g. III to 4 atoms Na in 250 cc. hot EtOH and the mixt. boiled 10 min. give 71% VIIA. V with EtONa and EtOH give 69% .beta.-2-benzoselenazoleacrylic acid (VIII), m. 260.degree. (decompn.). VI and aq. K<sub>2</sub>CO<sub>3</sub>, boiled 3-4 hrs., give 43% 2-quinolineacrylic acid (IX), m. 192-4.degree. (decompn.); add n. (25 min.) of 55 g. VI to 5.2 mols. KOH in 255 cc. boiling EtOH and the mixt. boiled an addnl. 40 min. give 58% IX (38% after recrystn. from MeOH). The 4-isomer (X) of IX m. 260.degree. (decompn.) and results in 76% yield (59% after recrystn. from AcOH). VIIA (2.05 g.) and 6 mols. K<sub>2</sub>CO<sub>3</sub> in 10 cc. H<sub>2</sub>O and 100 cc. CHCl<sub>3</sub>, heated on the steam bath and treated (8.5 min.) with 3.96 g. (7.5 mols.) KMnO<sub>4</sub>, boiled an addnl. 2 min., and the MnO<sub>2</sub> washed with the hot aq. layer and CHCl<sub>3</sub>, give (from the CHCl<sub>3</sub>) 38% 2-formylbenzothiazole (XI), m. 73.degree.; with 5, 6, 6.5, 7, and 8 mols. KMnO<sub>4</sub> the crude yields of XI were 30, 49, 48, 51, and 47%; the aq. filtrate gives an av. of 0.55 g. K 2-benzothiazolecarboxylate. VIII (2.52 g.) and 6 mols. K<sub>2</sub>CO<sub>3</sub> in H<sub>2</sub>O and CHCl<sub>3</sub>, treated with 7.5 mols. aq. KMnO<sub>4</sub>, give 41% 2-formylbenzoselenazole (XII), buff, m. 72.degree.; the crude yields of XII from 4, 5, 6, 6.5, 7, 8, 9, and 10 mols. KMnO<sub>4</sub> were 22, 28, 34, 40, 42, 46, 49, and 35%; the aq. layer yields 1.82 g. K 2-benzoselenazolecarboxylate, pale beige, not melted at 270.degree.; the free acid, cream, m. 120.degree. (decompn.). Oxidation of IX with 7.5 mols. KMnO<sub>4</sub> gives 54% 2-formylquinoline (XIII), buff, m. 69.degree.; 6, 8, 8.5, and 10 mols. KMnO<sub>4</sub> give 71, 80, 76, and 71% crude XIII. X yields 33% 4-formylquinoline (XIV), m. 52.degree., strongly sternutatory. XI and PhNH<sub>2</sub>, heated 30 min. at 115-20.degree., give 62% 2-phenyliminomethylbenzothiazole (XV), m. 102.degree.; XII and PhNH<sub>2</sub>, 5 min. at 98-101.degree., give 2-phenyl-iminomethylbenzoselenazole

(XVI), buff, m. 119.degree.; XIII and PhNH<sub>2</sub>, 5 min. at 98-104.degree., give 83% 2-phenyliminomethylquinoline (XVII), m. 73-4.degree. (51% on recrystn. from petr. ether); XIV gives 76% 4-phenyliminomethylquinoline (XVIII), m. 84.degree. (cf. Work, C.A. 36, 6541.1). XI (0.41 g.) and 1 mole  $\rho$ -H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>NMe<sub>2</sub>, heated 5 min. at 115-20.degree., give 71% 2-p-dimethylaminophenyliminomethylbenzothiazole, orange, m. 176.degree., absorption max. in MeOH contg. NH<sub>3</sub> at 4380 Å.; the dye strongly sensitized an iodoform emulsion, sensitivity extending to 6100 Å. (max. at 5300 Å.) XII yields 64% p-dimethylaminophenyliminomethylbenzoselenazole, orange, m. 186.degree., absorption max. at 4400 Å., strong sensitizer. XIII yields 64% 2-(p-dimethylaminophenylimino)quinoline, yellow, m. 145.degree., absorption max. at 4180 Å., sensitizes a chlorobromide emulsion weakly from 5200 to 5700 Å. XIV yields 72% 4-(p-dimethylaminophenylimino)quinoline, m. 155.degree., absorption max. at 4320 Å., does not sensitize a chlorobromide emulsion. 2-Methylbenzoxazole-MeI (XIX) (0.14 g.), 1 mol. XV, and 0.1 cc. Ac<sub>2</sub>O, heated 15 min. at 83-8.degree., the product extd. with 3 5-cc. portions of hot H<sub>2</sub>O, and the residue heated with Me<sub>2</sub>CO, give 14% 2-[2-(2-benzothiazolyl)vinyl]benzoxazole-MeI (XX), bright orange, m. 202.degree. (decompn.), absorption max. at 3850 Å.; a 29% yield is obtained on heating 1 mol. each of XIX and XV in 11 cc. EtOH 6 min. at 78-83.degree.; XI does not give XX. XIX and XVI (1 mol. each) in 11 cc. EtOH, heated 6 min. at 78-83.degree., give 34% (3% after crystn. from Ac<sub>2</sub>O) of the 2-benzoselenazolylvinyl homolog, bright reddish orange, m. 197.degree. (decompn.); the reaction can be carried out in Ac<sub>2</sub>O but cannot be carried out with XII. XIX and XVII (1 mol. each) in 11 cc. EtOH, heated 1 min. at 79-83.degree., give 45% (8% upon crystn. from Ac<sub>2</sub>O) 2-[2-(2-quinolyl)vinyl]benzoxazole-MeI (XXA), deep yellow, m. 193.degree. (decompn.), absorption max. at 3680 Å., with secondary max. at 2810 and 2920 Å.; it is decompd. on attempted crystn. from EtOH. XIX (1 mol.) and 2 mols. II-EtI in 7.5 cc. boiling EtOH, added to 3 mols. Na in 10 cc. hot EtOH and boiled 2 min., give (after crystn. from MeOH) 34% bis[2-(3-ethylbenzothiazole)]- $\beta$ -methyltrimethinecyanine iodide (XXI) (cf. Hamer, C.A. 23, 1903). C<sub>11</sub>H<sub>23</sub>CO<sub>2</sub>H (18.3 g.) and 1 mol.  $\sigma$ -H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>OH, heated 12 hrs. at 200-20.degree. and extd. with 4% NaOH, give 62% crude 2-undecylbenzoxazole (XXII); the Me<sub>2</sub>SO<sub>4</sub> salt (XXIII) results on heating 2 hrs. at 100-10.degree.. XXIII (from 0.68 g. XXII), 2 mols. II-EtI, and 5 cc. EtOH, boiled, treated with 3 atoms Na in 5 cc. EtOH, and boiled 2 min., give 53% (43% after 3 crystns. from EtOH and MeOH) bis[2-(3-ethylbenzothiazole)]- $\beta$ -undecyltrimethinecyanine iodide (XXIV), green, decomp. about 120.degree., absorption max. at 5500 Å., sensitizing max. at 5900 Å. (secondary at 5200 Å.).  $\sigma$ -H<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>OH (20 g.) and 1 mol. C<sub>15</sub>H<sub>31</sub>CO<sub>2</sub>H, heated 12 hrs. at 205-20.degree., give 70% 2-pentadecylbenzoxazole, m. 43.5.degree. (63% after 6 hrs. and 39% after 3 hrs.); heated 2 hrs. at 100-10.degree. with Me<sub>2</sub>SO<sub>4</sub>, it yields 48% of the Me<sub>2</sub>SO<sub>4</sub> salt (XXV), clears at about 142.degree.. XXV (1.14 g.) and 2 mols. II-EtI in 5 cc. boiling EtOH, treated with 3 atoms Na in 5 cc. EtOH, boiled 2 min., and the product in 10 cc. hot EtOH treated with its own wt. of KI in 10 cc. hot H<sub>2</sub>O, give 26% (after 2 crystns. from AcOEt) bis[2-(3-ethylbenzothiazole)]- $\beta$ -pentadecyltrimethinecyanine iodide (XXVI), green, decomp. about 210.degree., absorption max. at 5450 Å., sensitizing max. at 5800 Å. XXIII (from 2.73 g. XXII), 5-chloro-2-methylbenzothiazole-EtI (XXVII), and 20 cc. EtOH, boiled, treated with EtONa in EtOH, and refluxed 4 min., give 19% of the 5-chloro-3-ethylbenzothiazole analog (XXVIII) of XXIV, stable green and less stable red crystals, begins to melt at about 185.degree. and froths at about 205.degree., absorption max. at 5550 Å., sensitizing max. at 5995 Å. (weak); the 6-Cl isomer of XXVII gives 21% of the 6-Cl isomer of XXVIII, bluish green, m. about 202.degree. (decompn.), absorption max. at 5550 Å., sensitivity to 6400 Å., with max. at 6000 Å. XXV (2.28 g.) and XXVII in 10 cc. hot EtOH, treated with EtONa and boiled 10 min., give 20% of the (5-chloro-3-ethylbenzothiazole) analog of XXVI with 0.5 mol. EtOH, green, decomp. violently about 200.degree., absorption max. at 5500 Å., sensitizing max. at 5800 Å. (range from 5200 to 6100 Å.); 6-Cl isomer, dark green, decomp. violently at about 213.degree., absorption max. at 5500 Å., sensitizing max. at 5900 Å., 17%; 7-Cl isomer, crysts. in a more sol. bronze and green, and a less sol. blue form, decomp. 180-92.degree., absorption max. at 5500 Å., sensitizing max. at 5800 Å. (range from 5100 to 6100 Å.), 8%; (3-ethyl-5, 6-dimethoxybenzothiazole) analog of XXVI, dark green, indefinite m.p. (decomp. about 130.degree. on rapid heating), absorption max. at 5800 Å., sensitizing max. at 5400 and 6200 Å., 13%; (3-ethylnaphtho[2',1',4,5]thiazole) analog of XXVI, dark green, decomp. violently at about 216.degree., absorption max. at 5800 Å., sensitizing

max. at 6100 Å., 18%; (3-ethylnaphtho[2',1',4,5]thiazole) analog of XXIV, green, m. about 221.degree. (decompn.), absorption max. at 5800 Å., sensitizing max. at 6200 Å., 15%. XXV (4.55 g.) and IV-EtI with EtONa give 11% of the (3-ethylbenzoselenazole) analog of XXVI, green, decomp. about 150.degree., absorption max. at 5600 Å., sensitizing max. at 5900 Å.

2-Methylbenzoxazole Et p-toluenesulfonate (6.66 g.), 1 mol.

p-Et<sub>2</sub>NC<sub>6</sub>H<sub>4</sub>CHO, and 0.1 mol. Et<sub>3</sub>N in 10 cc. EtOH, boiled 7 hrs., give 31% 2-p-dimethylaminostyrylbenzoxazole Et p-toluenesulfonate (XXIX), vermillion, m. 234.degree. (decompn.), absorption max. at 4970 Å., sensitizing max. at 5300 Å.; 4.65 g. XXIX and 2 mols. II-EtI in 23 cc. hot MeOH, added to a hot soln. of 3 atoms Na in 23 cc. EtOH, boiled 10 min., and the hot filtrate treated with KI in H<sub>2</sub>O and boiled 2 min., give 7% bis[2-(3-ethylbenzothiazole)]-.beta.-p-dimethylaminostyryltrimethinecyanine iodide, m. 244.degree. (decompn.), absorption max. at 5565 Å., sensitizing max. at 5900 Å. The bromide corresponding to XXI (10 g.) in 25 cc. m-MeC<sub>6</sub>H<sub>4</sub>OH, heated 1 hr. on the water bath with 3 mols. AgCl, the Ag halides washed with hot MeOH, and the cooled filtrate and washings treated with 500 cc. ether, gives 48% bis[2-(3-ethylbenzothiazole)]-.beta.-methyltrimethinecyanine chloride (XXX), purple, m. 224.degree. (decompn.); the 3-ethylbenzoselenazole analog, purple, decomp. violently at about 245.degree., absorption max. at 5560 Å. XXX (0.41 g., 1 mol.) and 1.5 mols. XI in 3 cc. C<sub>5</sub>H<sub>5</sub>N, heated 5 min. at 125-30.degree. and treated with 2 mols. KI in 3 cc. hot H<sub>2</sub>O, give 5% bis[2-(3-ethylbenzothiazole)]-.beta.-[2-(2-benzothiazolyl)vinyl]trimethinecyanine iodide, dark green, decomp. about 218.degree., absorption max. at 5630 Å. (MeOH contg. NH<sub>4</sub>OH); reaction with XV was not successful; 1 mol. XX and 2 mols. II-EtI with EtONa in EtOH gives only 0.5%. XXX (0.41 g., 1 mol.) and 1.5 mols. XVII give 27% bis[2-(3-ethylbenzothiazole)]-.beta.-[2-(2-quinolyl)vinyl]trimethinecyanine iodide (XXXI), dark green, m. 216.degree. (decompn.), absorption max. at 5600 Å. (MeOH contg. NH<sub>4</sub>OH); XIII gives 52% XXXI; it results in 1% yield from XXA and II-EtI with EtONa; the ethiodide could not be prep'd. (3-Ethylbenzoselenazole) analog of XXXI decomp. about 227.degree., absorption max. at 5700 Å. (MeOH contg. NH<sub>4</sub>OH), 3%. Bis[2-(3-ethylbenzothiazole)]-.beta.-[2-(4-quinolyl)vinyl]trimethinecyanine iodide, dark purple, decomp. about 241.degree., absorption max. at 5610 Å. (MeOH contg. NH<sub>4</sub>OH).

IT

Dyes

(cyanine (trinuclear))

IT

Spectra

(of cyanine dyes (trinuclear))

IT

Dyes

(oxonols)

IT

Photography

(sensitizers, trinuclear cyanine dyes)

IT

2-Benzoselenazolecarboxylic acid

2-Benzoselenazole ethanol, .alpha.- (trichloromethyl)-

2-Benzothiazolecarboxylic acid, potassium salt

Benzoselenazolium compounds, 3-ethyl-2-[2-(3-ethyl-2-benzoselenazolylidenemethyl)-1-heptadecenyl]-, iodide

Benzoselenazolium compounds, 3-ethyl-2-[2-(3-ethyl-2-benzoselenazolylidenemethyl)-4-(2-quinolyl)-1,3-butadienyl]-, iodide

Benzothiazolium, 3-ethyl-2-[2-(3-ethyl-2-benzothiazolylidenemethyl)-4-[2-quinolyl]-1,3-butadienyl]-, iodides

Benzothiazolium, 3-ethyl-2-[2-(3-ethyl-2-benzothiazolylidenemethyl)-4-[4-quinolyl]-1,3-butadienyl]-, iodides

Benzothiazolium, 5-chloro-2-[2-(5-chloro-3-ethyl-2-benzothiazolylidene)methyl]-1-heptadecenyl]-3-ethyl-, iodide, compd. with EtOH

Ethyl alcohol, compd. with 5-chloro-2-[2-(5-chloro-3-ethyl-2-benzothiazolylidene)methyl]-1-heptadecenyl]-3-ethylbenzothiazolium iodide

Trimethinecyanine iodide, bis[2-(3-ethylnaphtho[2',1',4,5]-thiazole)]-.beta.-pentadecyl-

Trimethinecyanine iodide, bis[2-(3-ethylnaphtho[2',1',4,5]-thiazole)]-.beta.-undecyl-

IT

Benzoselenazolium compounds, 3-ethyl-2-[3-(3-ethyl-2-benzoselenazolylidene)-2-methylpropenyl]-

(salts)

IT

91-22-5, Quinoline

(dyes)

IT

3065-79-0, Trimethinecyanine iodide, bis[2-(3-ethylbenzothiazole)]-.beta.-methyl- 3065-79-0, Benzothiazolium, 3-ethyl-2-[3-(3-ethyl-2-

benzothiazolinylidene)-2-methylpropenyl]-, iodide 4123-18-6,  
2-Benzothiazoleacrylic acid 4146-26-3, 2-Benzothiazole ethanol,  
.alpha.- (trichloromethyl)- 4363-93-3, Cinchoninaldehyde 5470-96-2,  
Quinaldaldehyde 5603-13-4, Quinoline, 2-N-phenylformimidoyl-  
6287-63-4, 2-Quinolineacrylic acid 6338-93-8, 4-Quinoline ethanol,  
.alpha.- (trichloromethyl)- 6639-57-2, 2-Benzothiazolecarboxaldehyde  
13026-20-5, 4-Quinolineacrylic acid 13213-06-4, Quinoline,  
4-N-phenylformimidoyl- 14505-71-6, 2-Benzoselenazoleacrylic acid  
40969-11-7, p-Phenylenediamine, N,N-dimethyl-N'-(2-quinolylmethylene)-  
40969-11-7, Quinoline, 2-[N-(p-dimethylaminophenyl)formimidoyl]-  
52688-57-0, Benzothiazole, 2-[N-(p-dimethylaminophenyl)formimidoyl]-  
52688-57-0, p-Phenylenediamine, N'-(2-benzothiazolylmethylene)-N,N-  
dimethyl- 52688-64-9, Quinoline, 4-[N-(p-dimethylaminophenyl)formimidoyl  
]- 52688-64-9, p-Phenylenediamine, N,N-dimethyl-N'-(4-quinolylmethylene)-  
54695-81-7, Benzoxazole, 2-undecyl- 54695-82-8, Benzoxazole,  
2-pentadecyl- 56211-74-6, 2-Quinoline ethanol, .alpha.- (trichloromethyl)-  
61105-59-7, Trimethinecyanine, bis[2-(3-ethylbenzoselenazole)]-.beta.-  
methyl- 92061-06-8, Benzothiazole, 2-N-phenylformimidoyl- 93859-01-9,  
Trimethinecyanine chloride, bis[2-(3-ethylbenzothiazole)]-.beta.-methyl-  
93859-01-9, Benzothiazolium, 3-ethyl-2-[3-(3-ethyl-2-  
benzothiazolinylidene)-2-methylpropenyl]-, chloride 100834-54-6,  
Benzothiazolium, 3-ethyl-2-[2-(3-ethyl-2-benzothiazolinylidenemethyl)-1-  
heptadecenyl]-, iodide 100834-54-6, Trimethinecyanine iodide,  
bis[2-(3-ethylbenzothiazole)]-.beta.-pentadecyl- 106547-03-9,  
Benzothiazolium, 2-[4-(p-dimethylaminophenyl)-2-(3-ethyl-2-  
benzothiazolinylidenemethyl)-1,3-butadienyl]-3-ethyl-, iodide  
106547-03-9, Trimethinecyanine iodide, bis[2-(3-ethylbenzothiazole)]-  
.beta.-p-dimethylaminostyryl- 119151-39-2, 2-  
Benzoselenazolecarboxaldehyde 121706-94-3, Trimethinecyanine iodide,  
bis[2-(3-ethylbenzothiazole)]-.beta.-[2-(2-benzothiazolyl)vinyl]-  
121706-94-3, Benzothiazolium, 2-[4-(2-benzothiazolyl)-2-(3-ethyl-2-  
benzothiazolinylidenemethyl)-1,3-butadienyl]-3-ethyl-, iodide  
854053-41-1, 2-Benzoselenazolecarboxylic acid, potassium salt  
854053-45-5, Benzoselenazole, 2-N-phenylformimidoyl- 854053-80-8,  
p-Phenylenediamine, N'-(2-benzoselenazolylmethylene)-N,N-dimethyl-  
854053-80-8, Benzoselenazole, 2-[N-(p-dimethylaminophenyl)formimidoyl]-  
854054-73-2, Benzothiazolium, 3-ethyl-2-[2-(3-ethyl-2-  
benzothiazolinylidenemethyl)-1-tridecenyl]-, iodide 854054-73-2,  
Trimethinecyanine iodide, bis[2-(3-ethylbenzothiazole)]-.beta.-undecyl-  
854054-98-1, Benzothiazolium, 3-ethyl-2-[2-(3-ethyl-5,6-dimethoxy-2-  
benzothiazolinylidene)methyl]-1-heptadecenyl]-4,5-dimethoxy-, iodide  
854164-74-2, Benzoxazolium, 2-[2-(2-benzoselenazolyl)vinyl]-3-methyl-,  
iodide 854164-90-2, Benzoxazolium, 2-[2-(2-benzothiazolyl)vinyl]-3-  
methyl-, iodide 854165-28-9, Benzoxazolium, 2-(p-dimethylaminostyryl)-3-  
ethyl-, p-toluenesulfonate 854165-51-8, Benzoxazolium,  
3-methyl-2-undecyl-, methyl sulfate 854165-57-4, Benzoxazolium,  
3-methyl-2-pentadecyl-, methyl sulfate 854386-59-7, Benzothiazolium,  
6-chloro-2-[2-[(6-chloro-3-ethyl-2-benzothiazolinylidene)methyl]-1-  
tridecenyl]-3-ethyl-, iodide 854386-59-7, Trimethinecyanine iodide,  
bis[2-[6-chloro-3-ethylbenzothiazole]]-.beta.-undecyl- 854386-62-2,  
Trimethinecyanine iodide, bis[2-[5-chloro-3-ethylbenzothiazole]]-.beta.-  
undecyl- 854386-62-2, Benzothiazolium, 5-chloro-2-[2-[(5-chloro-3-ethyl-  
2-benzothiazolinylidene)methyl]-1-tridecenyl]-3-ethyl-, iodide  
854386-87-1, Trimethinecyanine iodide, bis[2-[7-chloro-3-  
ethylbenzothiazole]]-.beta.-pentadecyl- 854386-87-1, Benzothiazolium,  
7-chloro-2-[2-[(7-chloro-3-ethyl-2-benzothiazolinylidene)methyl]-1-  
heptadecenyl]-3-ethyl-, iodide 854386-91-7, Benzothiazolium,  
6-chloro-2-[2-[(6-chloro-3-ethyl-2-benzothiazolinylidene)methyl]-1-  
heptadecenyl]-3-ethyl-, iodide 854386-91-7, Trimethinecyanine iodide,  
bis[2-[6-chloro-3-ethylbenzothiazole]]-.beta.-pentadecyl-  
\*\*\*855468-61-0\*\*\*, Benzoxazolium, 3-methyl-2-[2-(2-quinolyl)vinyl]-,  
iodide 858188-18-8, Naphtho[2,1-d]thiazolium, 3-ethyl-2-[2-[(3-  
ethylnaphtho[2,1-d]thiazolin-2-ylidene)methyl]-1-tridecenyl]-, iodide  
858188-19-9, Naphtho[2,1-d]thiazolium, 3-ethyl-2-[2-[(3-ethylnaphtho[2,1-  
d]thiazolin-2-ylidene)methyl]-1-heptadecenyl]-, iodide 859322-25-1,  
Trimethinecyanine iodide, bis[2-(5-chloro-3-ethylbenzothiazole)]-.beta.-  
pentadecyl-, comp. with EtOH 859322-30-8, Trimethinecyanine iodide,  
bis[2-(3-ethylbenzoselenazole)]-.beta.-[2-(2-quinolyl)vinyl]-  
859322-32-0, Trimethinecyanine iodide, bis[2-(3-ethylbenzoselenazole)]-  
.beta.-pentadecyl- 859322-52-4, Trimethinecyanine iodide,  
bis[2-(3-ethyl-5,6-dimethoxybenzothiazole)]-.beta.-pentadecyl-  
859322-58-0, Trimethinecyanine iodide, bis[2-(3-ethylbenzothiazole)]-

.beta.-[2-[4-quinolyl]vinyl]- 859322-60-4, Trimethinecyanine iodide,  
bis[2-(3-ethylbenzothiazole)]-.beta.-[2-[2-quinolyl]vinyl]-  
(prep. of)

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(FILE 'HOME' ENTERED AT 07:58:26 ON 30 DEC 2005)

FILE 'REGISTRY' ENTERED AT 07:58:33 ON 30 DEC 2005

L1 STRUCTURE uploaded  
L2 STRUCTURE uploaded  
L3 STRUCTURE uploaded  
L4 44 S L1 SSS FULL  
L5 97 S L3 SSS FULL

FILE 'CAPLUS' ENTERED AT 07:59:34 ON 30 DEC 2005

L6 56 S L4 OR L5

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	23	jp-08179467-\$ did. or jp-08184936-\$ did. or jp-05273708-\$ did. or jp-04059761-\$ did. or ep-285369-\$ did. or jp-57003933-\$ did. or us-4307182-\$ did. or us-4006137-\$ did. us-3984243-\$ did. or us-3786058-\$ did. or us-3907782-\$ did. or us-3748136-\$ did. or gb-873937-\$ did. or us-3035917-\$ did.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 08:24
L2	336506	eosin yellow	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 08:25
L3	43	"eosin yellow"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 08:48
L4	58	(dimethinecyanine or (dimethine near5 cyanine))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 09:08
L5	267	dimethine	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 09:08
L6	71	dimethine	EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/30 09:08